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LIAISON

By Major H. M. Smith, U.S.M.C

Note.—The subject of "Liaison" is so broad and extensive that it is impossible to treat fully of the subject in a short article. The writer was in charge of all Liaison in the First Army Corps in the actions near Château-Thierry, the Aisne, St. Mihiel, and the Meuse-Argonne, and has endeavored to set forth as briefly as possible certain elementary principles gained from study and personal observation.

THE term "Liaison" has been much abused and many officers have failed to grasp its true meaning. Liaison is truly the nerve system of command. It is simply the "lines of information" described in our "Field Service Regulations."

We heard very little of the term before the late European war and our experience in the beginning of our participations in action in France showed conclusively that the subject of transmission of information had been neglected. We were inclined to smile at the oft-repeated descriptions of our Allied instructors in reference to "Liaison." Transmission and dissemination of information are co-relative.

The American soldier was imbued with the idea of learning how to fight; the transmission of information was something to be thought of by the other fellow. The consequence was that we began operations sadly deficient in Liaison arrangements. Effective Liaison requires that every superior commander know the locations of his subordinates and be able to communicate with them. It requires that an infantry unit know the location of, and be able to communicate with, adjoining infantry units; and that infantry and supporting artillery, infantry and supporting machine guns, and infantry and artillery and airplanes be in constant communication.

"In combat, communication will inevitably be interrupted. Ideal Liaison cannot be maintained, but the attempt must be made

to maintain it. Otherwise the unit is no longer coördinated within itself, nor coöperating as it should with adjoining commands. The commander loses control and the combat effect of cohesive and directed action is unobtainable."

A Liaison agent must have a wide military knowledge, a great experience of war, a quick eye, a sure judgment and a strong character. These are qualities rarely found in one person and very hard to find in the very young officer.

A Liaison agent should be to his Battalion Commander, Regimental Commander, or Brigade Commander, what a Chief of Staff should be to his General; is it, therefore, logical to insure a Liaison, so understood, by designating the youngest officer of the Battalion as has sometimes been done? On many occasions the writer has seen young officers report to Brigade, Division, and Corps Headquarters who had not the slightest idea of their duties and who had received no instructions further than that they were ordered to report as Liaison agents. Such officers are useless and a danger to the command which they represent.

Many commanding officers of battalions and larger organizations have frequently detailed officers for Liaison whom they considered not particularly fitted for front-line work, and without reference to the ability of these officers to receive and intelligently transmit information and reports. Such commanding officers, needless to say, had a gross misconception of their duties and responsibilities, and placed themselves in the category of those guilty of criminal neglect.

In order that higher commands may act intelligently it is absolutely necessary that clear, accurate, and concise reports be had, and any officer who places a stumbling-block in the way by detailing an inefficient Liaison agent may be considered unfit for command.

Complete Liaison consists in complete coördination. In the action of Bois de Belleau the close coördination of the artillery supporting the Marine Brigade and the Marine Brigade was an ideal Liaison. The Commanding Officer of the artillery and the Brigade Commander were quartered in the same farmhouse. Forward artillery observation stations were properly established, and Liaison agents of the artillery were sent forward to infantry units. Each company, battalion and regiment had a very efficient plan of Liaison and reports received at Brigade Head-

quarters indicated that with few exceptions the Brigade Commander was at all times in touch with his front line. This case was no exception.

In the Argonne-Meuse operations the failure of one of the Divisions was due almost entirely to a faulty plan of Liaison. Officers detailed as Liaison agents were officers unfamiliar with their duties and had little conception, if any, of what to do with the reports and information received.

In another Division in this same operation, one finds a similar case. The plan of Liaison of this Division was very good, in theory. The forward observation stations were located in excellent positions, but few reports were coming in to the Division Commander from these stations. Upon investigation it was found that reports were coming in regularly but were being *filed* by the officer detailed to receive these reports. A concrete case is here given. An enemy artillery ammunition train was held up by a jam at a cross-road within easy range of the artillery. The forward observation station immediately reported this information and it was being placed in a *beautiful file* when a staff officer discovered the information and transmitted it to the artillery, with the result that part of the ammunition train was destroyed. No better example could be given of an inefficient officer entrusted with the important Liaison work.

Near Fleville, in the Argonne, during an inspection of a Division which was having a particularly harassing time from enemy aviators, the Allied planes were sent over to locate the front lines of this Division and to drive away the enemy planes. The aviators returned and reported the location of the front lines, with the additional information that one battalion occupying the front line persistently fired upon their own aviators, although they flew within one hundred meters of the ground. Upon questioning one of the company commanders why his men were firing on their own planes, he replied: "Hell! we shoot them all." This was a complete failure to appreciate Liaison.

It was frequently noticed that Division Commanders were calling on the aviation to make jalonnements when it was clearly the duty of front-line battalions to report their own positions. The cost to the Government of training a pilot and an officer, coupled with the cost of an observation plane, was approximately about $80,000. Infantry contact work is the most hazardous of

all air service operations. Many planes, with their pilots and observers, were lost unnecessarily because the execution of the plan of Liaison was entrusted to inefficient officers.

In the St. Mihiel offensive pigeons were assigned to the tanks for use in case the tanks became disabled, stranded or lost. In either event, the pigeons were to be released with a message. Three days after the beginning of this offensive, an officer from the Corps Headquarters discovered a stranded tank. Upon approaching this tank a member of the tank's crew hailed this officer as follows: "Say, Major, I got a couple of pigeons in this tank and they haven't had any food for three days. What am I going to do with them?" Needless to say, this man had no conception of the use of agents by which his tank and his life might have been saved, had the emergency arisen.

In this same offensive the Chief of Staff of the First Army Corps detailed officers of the rank of Colonel as Liaison agents to front line Divisions. As these officers were men of military experience and high rank, the reports coming in from Division Headquarters were found to be of great value and assistance to the Commanding General of the First Army Corps. Such officers relieved the Chief of Staff of many minor details, and proved conclusively the necessity of having as Liaison agents officers of experience. These officers were able to make decisions and to report only those incidents which should have been brought to the knowledge of the master mind directing the course of action.

The distinction between "Liaison officers" and "Liaison agents" must be clearly understood. "Liaison officers" are responsible for communication within their units and to and from other units. "Liaison agents" are the personal representatives of their commanders, sent to other units to furnish to, and secure from, the commander to whom sent, special information which may be desired. To transmit this information Liaison agents should make use of the means controlled by Liaison officers or if necessary they should be provided with special personnel.

Certain instructions are absolutely essential for Liaison agents to Divisions and smaller organizations. Liaison agents to Divisions should be required:

(1) To study the topography of the sector of front to which they are assigned.

This will include, (*a*) defensive positions; (*b*) location of each

unit, including the batteries; (*c*) each command post, including the battalions; (*d*) every mechanical line of Liaison, including roads.

(2) To learn the names of the Commanding Officers, down to and including regiments; meet all members of the staff and learn their names. Familiarize themselves with all codes and signals employed in the communication of information.

(3) Study positions to be taken by the Division in case of an enemy attack in great force or local attacks. Study action to be taken in case of enemy's sudden withdrawal.

He should call up the operations section at least twice a day whether there is any information to communicate or not. He should, of course, telephone immediately all important information. He should remain in constant touch with all bureaus of the Division staff, learn everything contemplated and collect all information available. No information, however, should be communicated by telephone which under any conceivable circumstances might be of interest to the enemy. He should keep in touch with the artillery Liaison agent and give him whatever information he receives and which would be of interest to the artillery. When mechanical Liaison fails, he should act on his own initiative in accordance with his best judgment, remembering that his mission is to maintain contact between the two headquarters. Divisional Liaison officers should be prepared at all times to give, upon demand, the positions of all units of the Division they represent. They should be extremely careful not to forward any communications of an alarming or discouraging nature until it has been properly verified and released for transmission.

LIAISON WITH THE ARTILLERY

The artillery cannot act efficaciously unless it is in intimate Liaison with the infantry which it is supporting. The permanent contact between the commander of the infantry unit charged with the operation and the commander of the artillery which has been given the mission of supporting it, would evidently insure an ideal Liaison but it would offer the inconvenience of permanently separating the artillery officer from the command of his batteries, whose emplacements being subject to considerations of a technical nature, are often at a considerable distance from the infantry.

The result of this is that the commander of the artillery (commander of a battalion, for example) is obliged to have himself

represented with the commander of the infantry by Liaison agents, whose mission consists in informing, first, their chief as to the situation and need of the infantry; second, the infantry commander as to the support that the artillery can give him in such and such an eventuality. To be carried out, this mission requires a Liaison agent of the first class, knowing to the bottom not only the technical side of his arm, but also the processes of maneuvering of our infantry as well as those of the enemy.

The prolonged stabilization of the Allied armies had permitted them to reach great perfection in mechanical Liaison, but this atrophy of the war with its permanent installation which everywhere covered the sectors, made them lose sight of the essential conditions of a good Liaison; that is to say, *the quality of the men who were carrying it out.* The monotony of life in the sector had facilitated the service and had led to insuring it by a sort of rotation with the aid of variable personnel whose experience had been greatly hampered by the almost daily repetition of incidents in which it had very little part to play.

Such a conception of Liaison was absolutely erroneous, and while it might suffice for the need of the ordinary life in a calm sector, it led to the greatest disappointments when we began the war in the open. It was, therefore, necessary for the American army to accept as basic principles those which had been taught them by the Allies. To this end, it was necessary that the subject of Liaison should be thoroughly studied, and a general plan be established for the American army. It was noticeable that the character of the American soldier was such that he was able to perfect a runner system better than that of the French. The games played by the American soldiers when children enabled them to move faster and make longer trips under adverse conditions. In this connection, it should be emphasized that it takes an exceptional soldier to be a good runner. A good runner should be bright, intelligent, quick, strong, and should be able to orient himself to almost any conditions. The part played by our runners in the great offensive demonstrated the fact that there were no braver men. The casualties among runners were so great that it was necessary at all times to have a large number in reserve. These reserve runners should be trained to the minute. On many occasions runners have been seen loaded down with their full equipment. When it is recognized that the full equipment of

the soldier was approximately 50 pounds, it is easy to see that such runners were not successful. It was, therefore, necessary to specify in the plan of Liaison that runners should be equipped only with gas masks, pistols, and canteens. On account of their hazardous duties and training necessary for runners, it is believed that they should be given increased pay and rank above that of a private. It was frequently observed that after divisions went into the line and battalion, regimental, brigade and divisional headquarters were established, that runners were sent to locate their respective headquarters. This resulted on many occasions in much confusion. The proper procedure would have been to have sent these runners under charge of a non-commissioned officer or officer who was familiar with the location of these headquarters, without leaving the men to wander aimlessly about searching for headquarters. It was absolutely necessary, as found by actual experience, that all important messages by runners, should be confirmed by other runners. In numerous actions many runners never reached their destination. Consequently, important messages were undelivered.

The plan of Liaison originates with the Army. It is prepared by the Chief Signal Officer of the Army, under direction of the Operations Section. *The plan of Liaison from the Army* prescribes, generally:

(1) Table of indicatives and technical characteristics for transmission by radio. Under this heading wave-lengths for different radio stations; call letters to be used daily by radio stations.

(2) Signal codes:

(*a*) Signals made by the infantry.

(*b*) Signals made by infantry aëroplanes.

(*c*) Signals by means of the radio.

(3) Keys and ciphers employed.

(4) The axes of Liaison for different calls.

The *plan of Liaison of the Corps:* Upon receipt of the plan of Liaison from the Army, the Corps plan of Liaison is prepared, generally by the Chief Signal Officer of the Corps, under direction of the Operations Section. This plan includes:

(1) Telephonic Liaison with the Army Corps.

(2) Table of indicatives and technical characteristics for transmission by radio.

(3) Characteristics for aëroplanes and balloons assigned to mission with the infantry.

(4) Signal Codes.

(*a*) Signals made by the infantry by fireworks.

(*b*) Signals made by the infantry aëroplanes.

(*c*) Signals by means of the radio.

(5) Keys and ciphers employed.

(6) Liaison by pigeons.

(7) Liaison by runners.

(8) Liaison axes.

(9) Hours of report.

(10) Courier schedule.

(11) General instructions for Liaison officers.

(12) Weighted messages.

(13) Visual signals.

(14) Centers of information.

Plan of Liaison for the Division: The Division plan of Liaison predicates and enlarges upon the plan of Liaison from the Corps.

ADVANCED BASE MINES AND MINING

By Major Julian C. Smith, U.S.M.C.

Note.—The information for the historical portion of this article has been taken from "The Evolution of the Submarine Boat, Mine and Torpedo," by Commander M. F. Sueter, R. N., some of the paragraphs having been taken verbatim.

IN common with the submarine, airplane and a number of other devices until recently comparatively little known, but now in general use, the submarine mine was invented by an American. David Bushnell, born at Saybrook, a graduate of Yale in 1775, originated the underwater method of attack. He first discovered and demonstrated the fact that gunpowder could be exploded under water, and made use of his discovery by attacking the British blockading squadrons off New York and in the Delaware River. His mines consisted of kegs of powder fitted with gun-lock percussion mechanisms, or chemical fuses. His method of attack was to connect his mines in pairs and let them drift down with the tide on the enemy's ships. When the connecting line would foul the anchor chain, the mines would swing against the hull of the ship and explode on contact. While he never succeeded in sinking a man-of-war, his efforts caused much consternation among the British fleet. Robert Fulton took up the development of the mine and demonstrated to the French, English and American Governments that under-water line explosions would wreck the most stoutly built ships. After trying in vain to have his inventions adopted, Fulton quit in disgust, and returned to the experiments that resulted in the construction of the first successful steamboat.

During the Crimean War, 1854–56, the Russians used mines, but with little success, and it was the American Civil War that saw submarine mining developed to the extent of becoming an effective harbor defense. The primary cause of their development was the large number of ships placed in commission by the Federals for blockading and attacking the forts of the Confederates. The latter had few ships with which to meet this numerical superiority, and therefore developed the mine as being the most suitable weapon for attacking the vulnerable under-water portion of the heavy armored

monitors and other ships operating against them. The Federals retaliated with similar weapons, so that mines contributed in no small way to the continuation of this long and desperate struggle. A few of the incidents bear a short repetition.

In December, 1862, Admiral Porter ordered the senior officer in charge of the Federal gunboats to enter the River Yazoo and get possession of as much of it as possible to enable the troops to attack Vicksburg by that way. In reconnoitering the river many torpedoes were observed; therefore, two light-draft gunboats were sent on in advance with orders to raise or sink with gun-fire any torpedoes that were seen. These vessels were followed by two of heavier type. One of the former commenced firing at a floating torpedo and was instantly supported by a heavier boat, named the *Cairo*, which thought sharpshooters were being engaged on the bank of the river. In doing so the latter crossed two torpedoes. Loud explosions occurred in quick succession, one under the bow and the other under the stern. The damage caused the gunboat to sink in 6 fathoms in twelve minutes.

The torpedoes used were merely demijohns filled with powder and ignited by a common friction primer rigidly secured inside. To the primer was fastened a wire, passing through a water-tight bung made of gutta-percha, with a plaster-of-Paris joint.

The first idea was to explode them by pulling a wire from the shore, but subsequently they were more elaborately fitted by a Confederate officer in pairs and moored 20 feet apart, the wire leading from the friction tube of one mine to a similar device in the other.

Captain Mahan writes in connection with this incident: "Torpedoes had hardly yet come to be looked upon as a respectable mode of warfare, especially by seamen, and the officer who laid these, and was looking on when the *Cairo* went down, describes himself as feeling much as a schoolboy might whose practical joke had taken a more serious shape than he expected."

In the attack on Mobile, the Federal Navy had to contend against forts protected by a line of pile obstructions backed up by a triple line of torpedoes en echelon. These torpedoes were of several kinds: one made of well-pitched beer kegs with cones at each end, built up of pieces of wood, the exterior being carefully caulked to prevent the possibility of any moisture leaking in and so damping the powder. Five chemical fuses were screwed into holes in the top. On being struck, the fuses shattered and allowed sulphuric

acid to fall on chlorate of potash mixed with powdered loaf sugar, causing the explosion of the powder contained in the body of the barrel.

Another type of torpedo was constructed of tin in the form of a truncated cone, the larger diameter being at the upper end. The space at this part provided the necessary buoyancy; the magazine containing gunpowder was placed in the lower portion, on top was a cast-iron cap so secured that a slight blow would cause it to fall off. The cap was made fast by a chain to a friction tube, and as it fell the weight pulling the tube produced a flash, and exploded the charge. This mine went under the name of Singer's torpedo, and was the most successful used during the war. In 1864 as many as forty-six of the barrel mine and thirty-four of the Singer's mine were laid out in the mine-field in Mobile Bay. These defenses were supported by the ironclad ram *Tennessee,* and a few gunboats belonging to the Confederates. In attacking the fortifications, Admiral Farragut placed his monitors first, led by the *Tecumseh,* of 1034 tons, then followed the wooden ships. The leading ship had not gone far into the danger zone when she touched a submarine mine, which violently exploded; the monitor lurched heavily, then sank bow first, taking the captain and a large number of the crew with her.

The *Brooklyn,* seeing more dangers ahead, as some objects were discernible close to the surface, altered course slightly and signalled the flagship *Hartford* that there were more mines in sight. Admiral Farragut, on the signal being reported, is credited with saying, " Damn the torpedoes! Captain Drayton, go ahead! Jowett, full speed! "

Some of the ships, we read, actually felt and heard torpedoes bump, then graze along their bottoms. Fortunately for the intrepid Admiral, long immersion in salt water had caused excessive corrosion of the metal portions of the mines, which prevented the firing apparatus working effectively. In clearing this mine-field, many tugs and small launches were blown up, causing several casualties.

During the Franco-Prussian War, and the Spanish-American War, mines kept the blockading fleets at a respectful distance, and no opportunities occurred to test the actual efficiency of the mine defenses.

The Russo-Japanese War demonstrated clearly the efficiency of the offensive mine, as the following accounts will show:

"On the night of April 12–13, 1904, the Japanese sent a mining expedition of destroyers, torpedo-boats, picket-boats and mine-layers to operate off Port Arthur; a pretended torpedo attack was made to screen the mine-layers, and during this feint, mines were dropped from destroyers and mining vessels directly across the channel usually used by the Russians.

"The next day a weak decoy squadron was sent by Admiral Togo to draw the Russian Fleet out of Port Arthur, the main Japanese fleet being kept out of sight, but in radio touch with the detached ships. During the morning the Russian squadron proceeded out of harbor and gave chase to the decoy squadron, which then made off, but kept in communication with the main squadron below the horizon. After some time the latter appeared in sight. The Russians were not apparently ready to try conclusions with their enemy, and therefore the admiral signalled to his fleet to return to Port Arthur. Suddenly, under the starboard side of the flagship, a column of water was thrown up, followed by several dull reports—it is believed the Japanese mines were coupled together—and when the bow of the *Petropavlovsk* (11,000 tons) touched the connecting cable she carried it with her and swung the two mines with considerable force against her side, probably one to port and one to starboard.

"The terrific shock may also have detonated the explosives in one of her magazines, for the ship disappeared bow first, with a heavy list to starboard, within two minutes of the explosions; only some forty men out of a crew of seven hundred were saved, Admiral Makaroff being among those lost."

This was a severe loss to the Russians, as Admiral Makaroff was the most brilliant scientist in their navy. As the other ships were making their way back to Port Arthur, after the loss of the flagship, the battleship *Pobieda* (12,670 tons) struck a mine under her bow and was severely damaged, the water flooding aft as far as the capstan engine compartment. This did not prevent the harbor being reached, in which repairs were made by means of a cofferdam; these were executed in sufficient time to allow her to take part in the sortie of August 10, 1904.

The Japanese fleet was destined, before the end of the following month, to be paid out in their own coin, and their navy to receive the severest blow of the whole war. When cruising with the fleet to the southeast of Port Arthur, some 10 miles from the shore, on

May 15, 1904, the Japanese battleship *Hatsuse* (15,000 tons) struck two mines, which detonated one of her magazines and caused her to sink in deep water with most of the crew. This mine-field was skilfully laid by the Russian transport *Amur,* the mines being placed 100 feet apart for a distance of 1 mile. On the same day the Japanese battleship *Yashima* (12,500 tons) struck a mine off Dalny, and had eventually to be beached in shallow water on her way home to Japan for docking. The loss of these two ships was a crushing misfortune to Japan, and meant the loss of one-third of her battleship squadron in a single day. The loss of the *Hatsuse* was admitted at the time, but that of the *Yashima* was kept secret until the conclusion of hostilities, and then generally made known.

Other losses caused by mines during this war were as follows:

Russian: *Sevastopol,* 11,000 tons, disabled. (Repaired in six weeks.)

Japanese: *Sai Yen,* cruiser, sunk; *Takasogo,* cruiser, sunk; *Miyako,* cruiser, sunk. Several gunboats and destroyers on both sides were put out of action or destroyed during the war.

During the late world war, official data is lacking as to the number and classes of ships sunk by mines, but it is known to be large. Offensive mining developed to such an extent that the channels of all harbors in the war zone were swept daily before ships were permitted to leave or enter. None of the belligerent fleets dared enter narrow approaches or water shoal enough for anchored mines, without being preceded by mine sweepers.

It was Germany's defensive mines that held the Allied fleets at bay and gave her submarines a free exit to the sea. Modern battleships can stand a lot of gunfire, but none is so heavily armored that the explosion of a mine in contact with its side will not put it out of action, though the system of water-tight compartments renders it unlikely that any mine will sink a modern dreadnaught.

Floating mines are also in common use. These may be dropped in the path of a pursuing fleet, or placed in harbors where the tide will carry them against ships at anchor. They are usually coupled in pairs to increase their chance of fouling a ship's side.

Offensive work is done entirely by the Navy, which, at the beginning of the war with Germany had two mine-layers and one mine training ship. The number was rapidly increased and offensive mining in the open sea was taken up on a hitherto unheard of scale,

culminating in the laying of the North Sea barrage that so effectively checked the activities of the German submarines.

Defensive mines are used to protect friendly bases and harbors from attacks and raids by the hostile fleet. These waters must be open to friend and closed to foe. Therefore, it is necessary to have a type of mine that can be safely passed over by our own ships and yet dangerous to the enemy. This problem is solved by the use of a controlled mine, which may be fired by the closing of an electrical contact, either on shore at the will of the operator, or by means of a circuit closer, which makes a contact when the mine is struck. Requiring an electric current for firing, this mine is disarmed by the simple process of turning off the current.

The coast artillery has had a very efficient mine of this type for a number of years, and when the advanced base force was first organized, Marine officers were sent to inspect the army coast defense mining outfit, with a view of adopting it for our work. This inspection showed that while it was admirably fitted for use at permanent ports, it was not portable and not designed to be transported. On the other hand, the Navy had a fairly efficient, portable, electrically operated offensive mine, which with proper connections, could be used as a controlled mine. Some work had already been done toward using it in this manner. Captain (now Brigadier General) Feland, with the coöperation of the Naval officers at the Torpedo Station, took up the task of designing an electrical control that would fill the gap between the heavy stationery Army and the portable Navy systems, and finally evolved the system now in use.

The mission of the fixed defense regiment of the Advanced Base Force, of which the Mine Battalion is a unit, is the sea defense of the Advanced Naval Base. Its object is to repel hostile fleets or raiding parties, insure the safety of the train of supply ships, and leave the fleet foot loose to undertake offensive operations. Gunfire cannot be depended upon to prevent the approach of hostile ships during fog, rain or snow. But no fleet will enter unswept mined area; hence the use of mines.

In planning the mine defenses of a harbor, the first thing to be considered is what channels must be kept open to friendly ships. This decided upon, these channels are protected by the controlled mine fields, and the remaining approaches laid with contact mines, which of course are dangerous to friend and foe alike.

To lay and maintain the fields in the open channels is the mission

and duty of the mining company of the Advanced Base Force. The problem is unique in that we do not know where or when it will be required to fulfill its mission, and only general plans can be made for the work.

The mines are laid in groups. For each group there is one firing board located in the casemate and one junction box in the water near the field. A multiple cable connects the firing board with the junction box, which in turn is connected with each mine by a separate two-conductor cable. As the mine may be fired either on contact or by judgment, there are two leads in one cable from each mine to the junction box. One known as the hand lead is connected directly to the detonators; the other, the automatic or contact lead, is connected to the detonators through the circuit closer. Each hand-lead wire is connected in the junction box with a corresponding wire in the multiple-conductor cable. All the automatic leads are connected to a common conductor.

By a system of plugs and sockets on the firing board, any mine may be fired by judgment, or the group may be set for contact, so that a ship striking any mine will close the circuit closer, complete the circuit and send the current through the detonators. In each mine there is a specially made microphone attachment, which transmits the sound of the propeller of an approaching ship to the firing board, where an operator listens with an ordinary head set telephone receiver. The microphone is put in the mine to prevent surprise during fog or darkness. It is also valuable as a submarine detecter.

In order to make the channels doubly safe for our own ships, the mines are laid "dormant"; that is, at a depth greater than the draft of any friendly ships. They are kept at this depth until an attack is imminent, when they are "released," and allowed to rise to their most effective depth. The releasing is accomplished by a very simple and clever device, the details of which are confidential.

The Firing Board deserves a few words. It is strongly and compactly made, will stand shipment and rough handling, yet it is complete and effective. It consists of a switchboard, fifteen plugs, twenty-six sockets, and a number of lamps, one lamp to correspond to each mine, and one to light the board. Each mine circuit can be tested through the detonators, the lamps on the board lighting if the circuits are complete. The board can also be set for observation; that is, so that any mine struck will cause its corresponding lamp to light. The mine may then be fired by judgment.

The fire control system of a mining company consists of a plotting board and two observation stations. The stations, equipped with azimuth instruments, are placed at points that give a good view of the harbor entrance. The distance between them is accurately measured and used as a base line for plotting. The Coast Artillery submarine plotting board has been found, with a few minor modifications, to be admirably adapted to our work. It is set up in a casemate and connected with the observation stations by telephone. A chart of the harbor drawn to a scale of 100 yards to the inch is put on the board. The board is then set up with the pivots of the plotting arms placed at such distance apart as the length of the base line requires.

After the observation stations are established, the charts made and the plotting board set up, the position of the mine field is indicated on the chart and the work of laying the mines is begun. This is divided into five distinct operations as follows:

1. Placing buoys.
2. Laying cable.
3. Planting the mines.
4. Connecting the mines with the casemate.
5. Testing leads and connections.

Buoys must be placed to indicate the limits of each mine group and the location of the junction boxes. The groups are first located on the plotting board chart and readings taken by the arm setters to indicate their azimuth bearings from the observation stations. These readings are sent to the stations. The instruments are set on them and the buoy boat goes out prepared to drop buoys in the following order: white, red, yellow. The white indicates the left hand end of the mine group, facing the sea, the red the right end, and the yellow the junction box. The buoy boat starts out carrying a white flag and signals the stations, which answer. Each, by means of two targets, which may be placed one above or below the other, indicates when the boat is on its bearing. The boat having reached the position where the bearings intersect, shown by both stations signalling "on" at the same time, the white buoy is dropped. A red flag is then raised in the boat, which proceeds in succession to the positions of the red and yellow buoys.

As soon as the yellow buoy is placed, the cable boat, a 36- or 40-foot motor sailer, carrying the necessary length of multiple-conductor

cable on reels, starts out towing a cutter which carries the junction box and the crew for making the junction box connections. The cutter is anchored at the yellow buoy. The end of the multiple-conductor cable is made fast in the junction box coat and the cable boat sets out for a point on shore in direct line with the casemate, unreeling the cable as it goes. It has been found in actual practice that five to ten per cent. of the length of the cable is wasted by the drift of the boat, due to wind and currents.

Meanwhile, the mine boat, which at present is a motor sailer, specially rigged with false decking and thwarts, is brought out carrying mines for one group with their anchors and reels of two-conductor cable, all of which have been connected and tested before being put in the boat. It is towed in a straight line from the white to the red buoy and the mines dropped at proper intervals. A flag in the mine boat is dipped as each anchor goes overboard, so that the observation station crews, who are tracking the boat, may take and record the bearings of the actual position of each mine. These bearings are transmitted to the plotting board, where the locations are plotted on the chart.

The operations followed in connecting the cables are intricate and tedious and will only be indicated here. Each two-conductor cable reel is fitted on a chariot of white pine, buoyant enough to float it. The reels are towed to the junction box boat. Each is marked with the number of the mine and the cables connected in the junction box to their respective binding posts. By means of telephones at the junction box and casemate a check is made to insure that the mines, which are numbered from left to right, facing the sea, are connected to their corresponding leads and lamps on the firing board. The junction box is filled with a water-proof insulating compound which seals all connections against moisture, and is then dropped overboard.

Before the junction box is sealed tests are made of each conductor from the casemate to the junction box, and of both conductors to the mines. After the junction box is put overboard, a test is made of each conductor for leaks, grounds and short-circuits.

Each morning these tests are repeated and daily tests made for the voltage and internal resistance of the batteries. Results of all tests are recorded in the log.

The most interesting part of the mining work is the tracking of ships that come into the mined area. The plotting board has

mounted on it a chart showing the location of the principal datum points within the mine field, the outline of the entrance to the harbor, the various channels, the depths of water passable by the various types of battleships, cruisers and torpedo boats; and also the junction boxes and mines comprising the field.

To use the board for tracking, simultaneous readings are taken at the base line observation stations every fifteen seconds, as indicated by a time interval bell, and the arms set at the azimuth readings sent in from the stations. Each arm setter calls out "set" when his arm is at the indicated azimuth. At this signal the plotter plots the position of the target at the intersection of the two arms. The target is tracked in this manner until its position is indicated to be within predicting distance of a mine. This distance is about twice the space travelled during an observing interval. Just before the last stroke of the time interval bell the plotter commands "Stand by for last reading." This command is repeated by the arm setters, through the phones to the stations. At the last stroke of the bell the plotter starts a stop-watch, plots the position of the target and commands, "Arms off." The arm setters move the arms out of the way. The plotter places his mine prediction ruler on the board, sees which mine the ship will come nearest to, if it continues its course, and sends word to the firing boards, "Group No. —, Mine No. —." He then measures the distance from the last plotted point to the mine, and from the last plotted point to the preceding plotted position of the target, and with his mine prediction ruler determines the time it will take the vessel to travel from the last plotted point to the mine. At two seconds before the time for the vessel to reach the mine has expired, the plotter commands, "Fire," the two seconds being allowed for the word to reach the firing board and the firing plugs put in.

Controlled mines, requiring as they do cables, junction boxes and other material, will not be easily replaced if a field is once thoroughly swept or countermined. Consequently, the protection of the mine field is of great importance. The mine commander should have batteries of three-inch or five-inch direct fire guns, with which to defend his field from sweepers and countermining craft. Sweepers are likely to be slow and comparatively easy to stop; but the underwater effect of high explosive is so great that light, shallow draught, high speed craft might easily destroy a field by running over it, dropping depth bombs; which experiments have proved will wreck

a mine at a considerable distance. The only way they can be stopped is by gunfire before they reach the field. One such boat carrying three or more depth bombs would probably open a passage through a field, even if it were destroyed by the first mine over which it passed.

There have been constant changes and improvements in the mining material and methods, until a very high state of efficiency has been reached. The information gained abroad, during the late war, is not immediately available, but it is not believed that it will necessitate much change in the methods now used, but in view of the improvements in Navy mines it is probable that in the near future a new mine will be adopted, as the one now in use is not so effective and is more vulnerable to countermining than more modern types.

The officer in command of the Marine Corps Mine Company should keep in close touch with the Ordnance Department of the Navy and spend considerable time at the Naval Mine Depot, Yorktown, Va. It might even be advantageous to keep the Mining Company at Yorktown to insure perfect liaison and coöperation with the Navy. Philadelphia is not a satisfactory station in that it does not offer opportunity for experimental work and there is the usual tendency to use the men of the Mining Company for other duties, thus causing neglect of their own work. There is a further tendency to become provincial, as it were, and satisfied with the material and methods in use rather than to seek for constant improvement.

It would seem that the present is the time to take up seriously the work connected with mining, which is undoubtedly the most important feature of Advanced Base work, and must ever be the main line of defense against a naval attack.

A SYSTEM OF INSTRUCTIONS FOR OFFICERS OF THE MARINE CORPS

By Major E. W. Sturdevant, U.S.M.C.

THE instruction of officers of the Marine Corps at the present time is obviously one of the most important questions that the Headquarters of the Corps must deal with, since on account of the tremendous expansion and diversification of its work, the Marine Corps is now called on to furnish officers equipped for a far wider range of duties than ever before. The Military art in general has also expanded, new forms have appeared, the old familiar branches we have studied for many years have been greatly enlarged and they all need much more thorough study to acquire proficiency. During the last two years, due to the exigencies of war, it has been necessary to instruct officers for the particular duty to which they were to be assigned, and it has been impossible to provide the all-round training formerly considered necessary for Marine Officers. Many of our junior officers have had the best of all training, active service in war, but this has been purely infantry training, and instruction in other lines is of course necessary.

Another feature of the situation is the fact that many of the older officers have been on foreign tropical service during the recent war and have not, therefore, had opportunities to keep abreast with modern military training, of course through no fault of their own. The needs of these officers must be taken into consideration in any system of instruction.

Our problem naturally divides itself into the following parts:

(*a*) Completion of the professional training needed for those junior officers who entered the Marine Corps during the war.

(*b*) Training of the future officers of the Marine Corps.

(*c*) Provision of opportunities for up-to-date instruction for those older officers mentioned above, who have not had the advantage of modern training camps or active service during the war.

It is obvious that to solve the problem in its entirety it will be necessary to determine, first the subjects that all Marine Offi-

cers should know, and second, what, if any, subjects should be specialized in by certain officers.

Here we run up against the old dispute between the advocates and opponents of specialization. The theory used to be held by many distinguished Marine Officers that every Marine Officer should be able to perform efficiently any duty assigned to the Marine Corps. This gave rise to the old sneer that the Marine was "jack of all trades and master of none." Like most hotly debated propositions, the truth of the question of specialization lies midway between the extremes. There are certain subjects of which all Marine Officers should be masters. At the same time, every Marine Officer should have at least one specialty, preferably two or three.

What specialties each officer would be assigned to depends on three conditions:

1. The needs of the Marine Corps.
2. The qualifications of the officer.
3. The officer's own wishes.

In considering what subjects should be held essential to every Marine Officer's education, we may go on the assumption that the main work of the Marine Corps is that of infantry, sea-going infantry, but nevertheless infantry. It therefore follows that infantry subjects will take up the largest part of the required course.

By infantry was formerly meant a body of foot soldiers armed with rifle and bayonet. But the introduction of grenades, automatic rifles, trench mortars, 37-mm. guns, etc., has made infantry a very complex organization, while the use of the machine gun has developed to such an extent that it may almost be considered a separate arm. It is still true, however, that the fire effect of the rifle is the principal weapon of infantry.

Keeping in mind this consideration, the following list is suggested of subjects, a knowledge of which should be required of all Marine Officers:

1. Infantry:

(*a*) Drill regulations: Close and extended order, approach and attack formations, ceremonies.

(*b*) Guard duty.

(*c*) Bayonet training.

(*d*) Minor tactics.

(*e*) Musketry. Under this head should be included not only instruction in the use of the rifle and target practice, but also elementary exterior ballistics, and thorough knowledge and practical application of the principles of fire discipline, fire control of platoons and companies, target designation, etc. Practical instruction in fire control could be worked in with the field problems given under minor tactics:

(*f*) Bombing, including both rifle and hand grenades.

(*g*) Automatic rifles. The tactical employment of automatic rifles is so different from that of machine guns that I believe that instruction in the two weapons should be separate.

(*h*) Stokes-mortars and 37-mm. guns.

2 Machine Guns:

Instruction in this subject will be clearer if machine guns are considered not as part of infantry, but as auxiliaries to infantry.

It would be extremely desirable that the whole subject of machine guns be included among the requirements for all Marine Officers, but this will probably be impossible. At any rate, the tactical use of this arm should be taught.

3. Field Artillery.

The same remarks apply to Field Artillery as to Machine Guns. Certainly some instruction in this subject should be given to all Marine Officers, preferably the tactical use of Field Guns.

4. Naval Ordnance.

Instruction should be given with a view that every junior officer of the Marine Corps should be capable of handling any ship's battery of calibre to and including 7-inch.

5. Liaison and Signalling.

This course should include:

(*a*) General principles of liaison.

(*b*) Visual signalling.

(*c*) Navy signals.

6. Gas Defense.

As it is probable that gas will be used in future wars, this course should be retained.

7. Military Hygiene and First Aid.

8. Topography and Map Reading.

In addition to the usual course based on Sherrill, the use of French and British coördinated maps should be taught.

9. Field Engineering.

10. Military and Naval Law.

Besides Naval Courts and Boards, Dudley's "Military Law" and "Rules of Land Warfare" should be comprised in the course.

11. Administration.

12. General Duties of Marine Officers Aboard Ship. This would include such subjects as duties of a watch officer in port, landing force, boat drills, etc.

13. Tactical Employment of All Arms Combined.

This subject should be given only to those officers who have studied the tactical use of all the various arms mentioned in the preceding list. It would include the use in practical problems of infantry, machine guns, and artillery. It is assumed that, as noted above, every Marine officer has received instruction in at least the tactical uses of Artillery and Machine Guns.

Methods of instruction would be lectures, map problems, and practical problems with troops, or with mere representation of troops, if sufficient forces are not available.

The above list comprises all the subjects to be required of every Marine Officer.

We now come to specialization.

1. Aviation.

While this is a highly specialized branch, officers should not be permitted to enter it until they have completed the course required of all officers. Of course, during the war this could not be done.

2. Field Artillery.

3. Machine Guns.

4. Musketry.

The purpose of this school would be to develop coaches and instructors for target ranges and in general to form a permanent center of rifle instruction in the Marine Corps.

5. Quartermaster Department and Pay Department.

Since the line is called on to furnish officers for four-year detail to these departments, a specialized course of training should certainly be useful before their detail. As quartermasters are sometimes required to act as paymasters, the course for the two departments might well be combined. The scope of the course would be prescribed by the department heads.

6, 7, 8, 9. Advance Base Specialties:

Signal Battalion.

Searchlights.
Mines.
Engineering.

The Commanding Officer of each of the Advance Base organizations would be in charge of the training of officers assigned to his specialty. Much of it would doubtless be in connection with the training of the Advance Base troops. But such officers would be considered under instruction and would be in addition to the authorized commissioned complement of the various organizations to which they were attached.

In the above list of suggested required and specialized studies, no recommendations have been made in the majority of cases as to the scope of each course, the proportionate amount of time assigned to each subject, or the number of months needed to complete the whole required course or the specialties. Most of these details have been worked out by the staffs of the various Marine Corps schools in operation during the war and the excellent results obtained show that they have solved their problems well.

In applying this course of instruction, we must consider what instrumentalities are available. There are at present, or were during the war, the following schools in operation:

1. The Officers' Training Camp for candidates for commissions, now become an "Officers' Training School" for those already commissioned. This school gives courses covering drill regulations, guard duty, the bayonet, minor tactics, bombing, engineering, topography, law, administration and small arms firing regulations.

2. The Overseas Depot. This is really a collection of special schools in Machine Guns, Automatic Rifles, Signalling, Bombing, Sniping, Trench Mortars, 37-mm. Guns, etc.

3. School for Service Afloat. Instruction in Naval Ordnance, boat drills, duties of watch officers, guard duty aboard ship, ship and gun drills, etc.

4. Aviation.

5. Artillery.

Of these the School for Service Afloat should be abolished as a separate organization, and its courses given as part of the requirements for all officers, since every Marine Officer should be qualified for seagoing duty. It may be necessary, however, for

the students to spend a week or two at a Navy Yard to obtain practical knowledge of the modern battleship.

The Officers' Training School should be expanded by the addition of courses from the School for Service Afloat and the Overseas Depot until it includes all the subjects in the list of requirements of all Marine Officers.

The remainder of the courses in the Overseas Depot should be assigned to the proper Specialist courses, and the Overseas Depot abolished as such.

Special schools, as aviation and artillery, should continue as before. The necessary additional special schools should also be established.

The whole Marine Corps system of education should be coordinated and placed under the direct supervision of the Planning Section of Headquarters. The supervising authority would, subject, of course, to the approval of the Major General Commandant, assign officers as instructors and students to the schools.

Having now determined what is to be learned and what schools we must have to impart this learning, the next step is to devise means to fit into these schools the three classes of officers mentioned in the first part of this article, whose training forms our present educational problem.

The first class, that of junior officers originally commissioned in 1917 and later, is by far the largest. These officers are now scattered throughout the posts of the Marine Corps. It would be impracticable to order to school those at sea or on foreign stations. Those on shore duty should be sent in turn, those whose professional education has the largest gaps naturally being sent first. It will first be necessary, of course, to complete training in required subjects before taking up specialization.

The second class is that of the future officers of the Corps. These officers will be from two classes:

Naval Academy graduates.

Non-commissioned officers of the Marine Corps.

The non-commissioned officers recommended for commissions will be sent to the Officers' Training School, to take certain courses as candidates for commissions. These courses may well be those given in the Officers' Training Camps held during the war at Quantico. At the conclusion of their study, those found qualified will be commissioned, if there are vacancies.

The Naval Academy graduates will also have learned many of the subjects needed by the Marine Officer, as Naval Ordnance, Military and Naval law, etc., but they will not be the same subjects as those taught the non-commissioned officer candidates for commissions.

We thus will have our new crop of second lieutenants divided into two classes, having different funds of knowledge on which to commence their commissioned career. It will, therefore, be necessary to divide our Officers' Training School into two parts, each providing a different group of courses, to round out properly the student officers' education.

The third class, the older officers who have not had sufficient opportunity to modernize their training, should be handled much as the first class. On returning from foreign service, they should be sent to school to remedy their deficiencies, remaining there at least six months.

To sum up, the Marine Corps system of education should be like a university, which provides a certain number of required courses and a certain number of electives.

Every Marine Officer must know all the required subjects and at least one, perhaps two, specialties, which will be elective as far as the needs of the service permit.

It is needless to say that the Training School for Officers and the specialists' school should be at Quantico, except aviation. Quantico has both the required ground and much of the required equipment.

Garrison schools have not been touched on here. The real function of garrison schools is to keep officers brushed up on information already learned, not to instruct them in new subjects.

The question of advanced schools, "higher education," lies beyond the scope of this article. That such education is necessary for the Marine Corps goes without saying, as well as the fact that we cannot rely upon the Army or Navy to give it to us, but must provide it for ourselves.

SIXTH (MORALE) DIVISION, BUREAU OF NAVIGATION

By Major Randolph Coyle, U.S.M.C.

THE current magazines, both service and civilian, have abounded in articles on "Morale." These articles have served a very useful purpose in developing the theory of morale. The Sixth Division of the Bureau of Navigation has been organized to put into practice the best accepted theories of promoting morale. The theoretical is not to be neglected—the theory will receive careful study, but the very definite contentment problems must also be handled systematically. The Sixth Division is as much a Marine Corps organization as it is a Navy one. All forces are gathered together here and the successful execution of its mission "To Aid Constituted Authority to Maintain a High Morale" will surely serve to build up our esprit and keep the Marines the place in the public esteem their stark fighting has earned for them.

The writer is the first Marine Officer ordered for duty with this Division, and over his desk pass all the requests and suggestions looking toward the betterment of the general condition of the men of the Corps along recreational, educational, and amusement lines.

The Division has grown out of the old Navy Department Commission on Training Camp Activities, and is to carry on and extend the work as done by that Commission during the war. This work will be done with Government appropriations and the very material assistance of such welfare organizations as continue to function after the war.

The Division takes its official standing from the Bureau of Navigation Circular Letter No. 33 of 1919, and there are at present in the Division the following officers with duties as laid down in the above-mentioned circular letter:

Comdr. C. B. Mayo, U. S. N., Chief of Division.
Lt. Comdr. M. Collins, U. S. N., Executive Officer.
Lt. Comdr. J. G. Ware, U. S. N., Athletic Officer.
Major R. Coyle, U. S. M. C., Marine Corps Matters.
Lt. Comdr. W. D. Owens (M. C.), Social Hygiene.
Pharm. J. Levansaler, U. S. N., Ass't to Lt. Comdr. Owens.

Lt. C. R. Eagle (P. C.), Supply and Disbursing.

Ensign C. R. Clerk (P. C.), Assistant to Lt. Eagle.

Lt. J. F. Carruthers (Ch. C.), Education, Libraries, and Welfare Organizations.

The principal activities of the Division in detail are:

(1) To provide as much athletic gear as is possible in addition to that supplied by the Government.

(2) To procure the best motion-picture service for all ships and stations at the minimum rate.

(3) To instruct and guide the personnel on the subject of Social Hygiene.

(4) To procure for ships' and posts' libraries from the appropriation "Instrument and Supplies" and through the American Library Association as much suitable literature and reading matter as possible.

(5) To coördinate the activities of all welfare organizations and communities for the betterment of conditions during the men's liberty hours, and

(6) To exercise a general supervision over any condition of discomfort or dissatisfaction and to remedy those conditions wherever they may be found to exist.

The work already accomplished by the Division is as follows:

(1) The distribution throughout the service of athletic gear, victrolas, piano players, and pool tables purchased under Government appropriations to the amount of twenty-five or thirty thousand dollars.

(2) The supervision of the distribution of similar material as furnished by various welfare organizations to the amount of several million dollars.

(3) The placing of the work before Congress by the head of the Division in such manner as to attain a substantial appropriation for the coming year.

The Division will fill a long felt want, and with the backing and assistance of all officers it will be able to accomplish a tremendous amount of good for the contentment of the service in general, which contentment has more to do with a high state of morale than any other single item.

With our mission as stated above, this Division is going ahead to reach every ship, station and man in the Naval Service with its activities, and all ranks and ratings may feel that there is an official, helping hand, in case of trouble and a competent and recognized

department to which to turn when help is wanted. The Division is also established to make the leisure and recreational hours of all hands as entertaining and instructive as possible.

To do this the Division is procuring and making available the following for all including the most remote and isolated ships and stations:

(1) Athletic equipment at the very best figures obtainable (we equal, if we do not beat, the best Government figures).

(2) The best class of shows for the movies, through the best and biggest commercial exchanges at prices which cannot be equaled by the individual ship or station.

(3) Procuring from the American Library Association and by purchase, the maximum number of books, periodicals, and dailies for distribution.

(4) Placing the subject of Social Hygiene before the service by posters, illustrated lectures and movies.

(5) Coördinating and obtaining maximum effort from all welfare organizations, both on the station and in the adjacent community.

(6) Making adjacent communities, through officials and leading citizens, as attractive as possible for liberty men.

(7) Placing an optional educational program at the service of the men during leisure hours.

The following officers have been ordered to duty with this Division as follows:

Lt. Comdr. J. F. Meigs, 1st Naval District.

Comdr. Geo. C. Logan, Newport Training Station.

Capt. O. P. Jackson and Lt. Comdr. W. H. Stiles, 3rd Naval Dis.

Lt. Comdr. F. Slingluff, 4th Naval District.

Lt. Comdr. W. E. Brown, Naval Operating Base, Hampton Roads, Va.

Lt. Comdr. A. S. Carpenter, Great Lakes Training Station.

Comdr. Robert Giffen, 12th and 13th Naval Districts.

Lt. Col. T. E. Backstrom, Quantico, Va.

Major N. S. Hinman, Cuba.

Paris Island, to be ordered.

Haiti and San Domingo, to be ordered.

These officers will have direct charge of the work as outlined above and with the backing of the officers throughout the service

accomplish a work with official status which will help keep up to the highest standards the Peace-Time Morale of the Service.

The field of work covered by these Morale Officers and Aides for Morale is almost boundless.

The Morale Officer in a station or post coördinates all the agencies which work for the betterment of the command and fosters new idea to that end. He also obtains the best and most extensive service from the adjacent community for the entire command. To accomplish both of these results he draws upon all the agencies shown in the accompanying diagram.

The Aide for Morale, whose work under the Commandant of a district covers the whole district, takes supervision of work by all agencies in the various communities looking toward the betterment of conditions for the service in general, and makes possible special entertainments for detachments, ships, squadrons or fleets visiting said localities. The agencies at his disposal are the same as those of a typical community, under the Morale Officer, as shown in the accompanying diagram.

From the foregoing it will be seen that the Department has established a bureau to handle the subject of Morale, throughout the Service. The work will prove of inestimable value, as shown by the results already obtained, and only needs the coöperation of the service at large to assure the full accomplishment of the mission.

Note:- Commanding officer reaches command through Morale officer, Officers and representatives of the various welfare organizations. Men of command get service and reach Commanding officer through N.C.O.'s officers and representatives of various welfare organizations.

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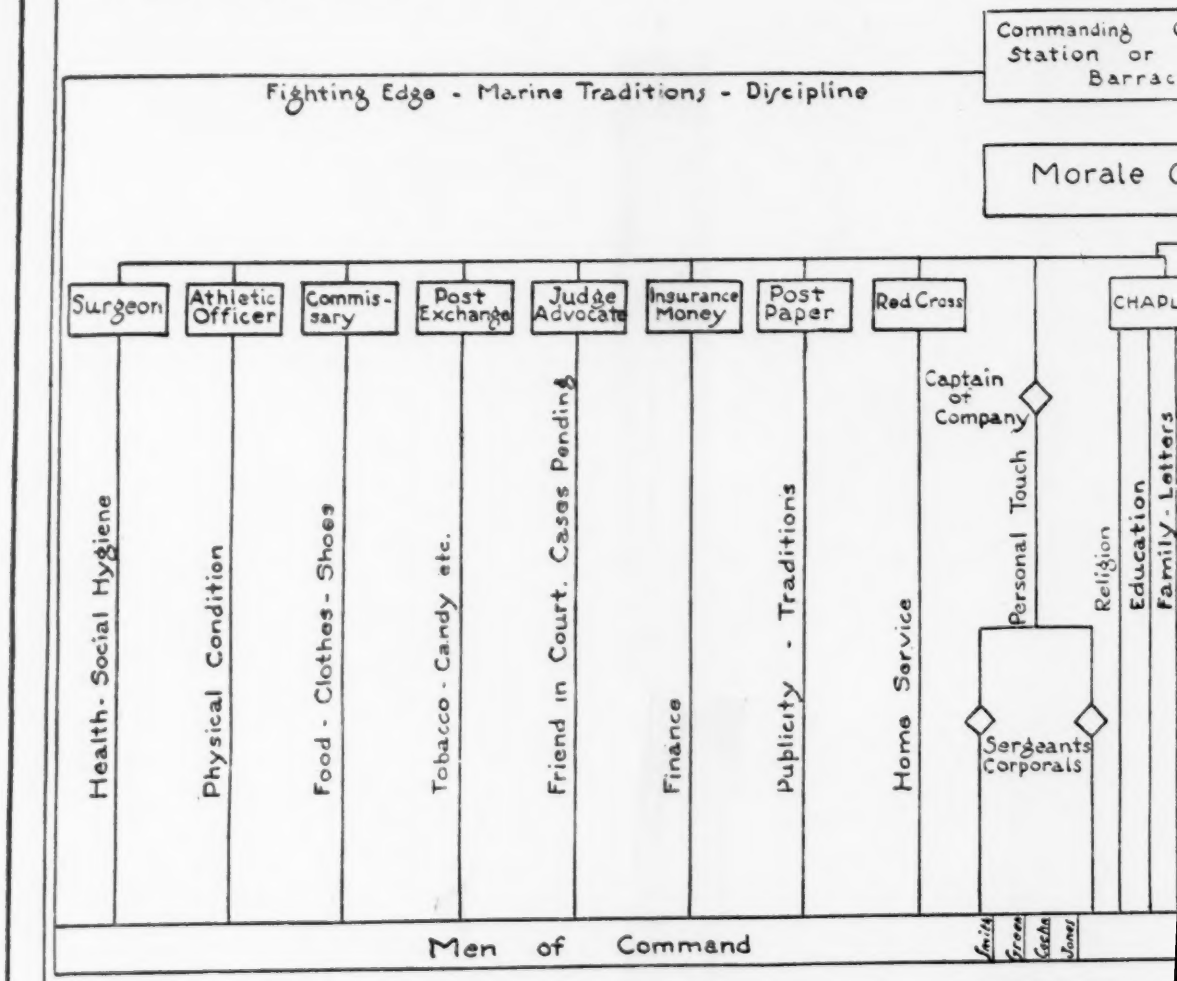

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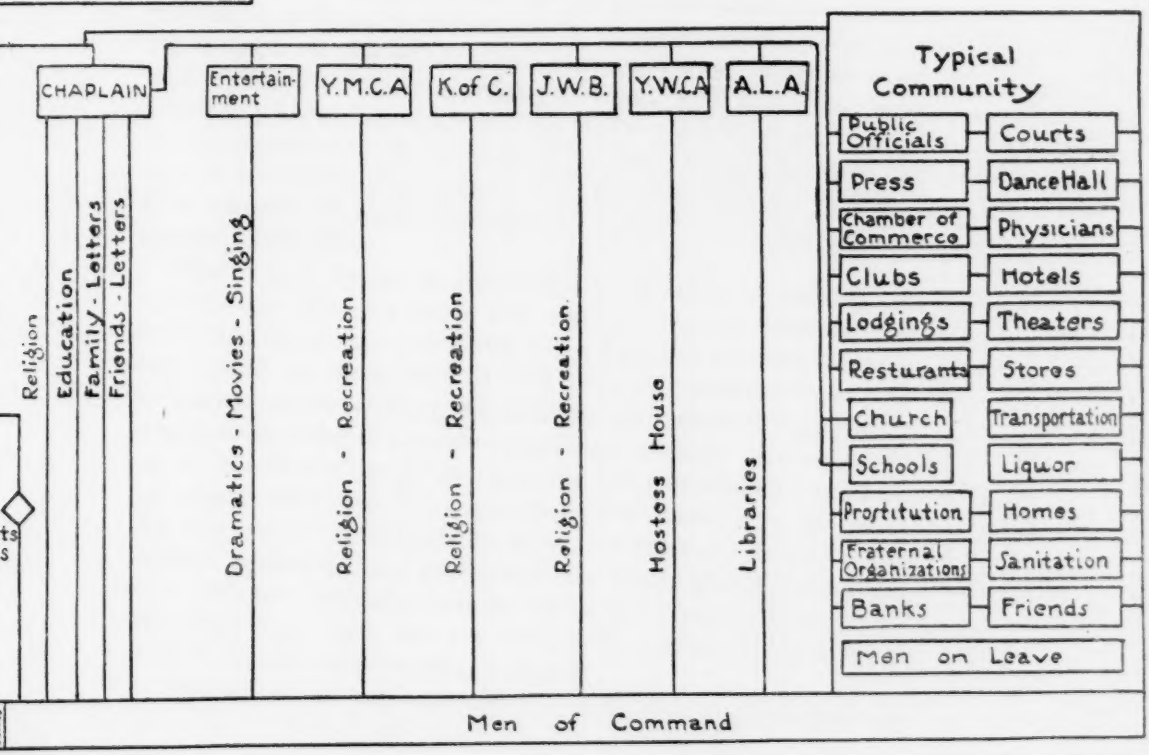
Morale.

"The simplest way of explaining the meaning of morale is to say that what condition is to the athlete's body, morale is to the mind. Morale is condition; good morale is good condition of the inner man; it is the state of will in which you can get most from the machinery, deliver blows with the greatest effect, take blows with the least depression, and hold out for the longest time. It is both fighting power and staying power, and strength to resist the mental infections, which fear, discouragement and fatigue bring with them – It is the perpetual ability to come back."

Typical Station or Marine Barracks



THE NEW MOVEMENT

By Major Earl H. Jenkins, U.S.M.C.

A KEEN interest will be felt, by all officers concerned with the morale of our fighting forces, in the recently established "Sixth Division" of the Navy. The purpose of the movement is to foster the morale of the Navy and Marine Corps by sending special officers known as "Morale Officers" to Naval and Marine Corps stations. It is new and constructive work, and will require a profound insight into human nature, a close study of the psychology of the soldier and sailor, and an intimate knowledge of the influences, social and otherwise, which determine the mental attitude of the men in the service.

The time seems ripe for this movement. War conditions no longer force us to consider the difficult problem of morale quickly. We may now listen to discussions from those who have been giving thought to this subject, and from such discussions we shall undoubtedly profit. Suggestions will come from those who have heretofore been responsible for the morale of our troops. Speed in this matter can only be made at the expense of efficiency. In fact, it is a matter that cannot be reduced to scientific methods. It is a matter of social atmosphere, of personal psychology and personal influence.

There must be much laboratory work, much analyzing, before we are able to resolve this subject into its elements, and determine the general principles along which to proceed. Having determined the principles, it will require considerable experimentation before realizing the methods with which to apply these principles in order to produce satisfactory results. We are entering a "No Man's Land," and must advance cautiously, for there are snares that only the experienced will know how to avoid. We may expect mistakes to be made, for the route is uncharted. Politics, ignorance, and precedence are mines planted along our way. We may explode these mines by handling the propaganda wires that have been, that are being, that will be, laid in this, at present, fruitful field for good and evil.

The morale of any organization must ever depend upon its

commander. The morale officers of the Sixth Division are not intended to relieve the company commander of this responsibility, but only to assist him in attaining and maintaining the highest morale possible throughout the station.

The new plan will undoubtedly make the men feel that special effort is being put forth to make their lot a contented and happy one. This in turn will beget a feeling that they must do their share in coöperation with the efforts made in their behalf.

The new plan stresses morale and makes one feel that it is an important factor in the discipline of the enlisted man. This tends to make the officers realize that it is a special duty for them, and that they must do their share in building up the social character of the body of which they themselves are integral parts.

Men are by nature either " mixers " or formal in their attitude. The duties of an officer, his responsibilities for discipline, tend to make him formal. He holds himself more or less aloof from the men. Officers breathe, generally speaking, a different atmosphere from the men in the ranks. Officers must maintain the respect of their subordinates. George Washington was known for his aloofness; he resented the slightest approach to familiarity even by his closest friends. There are a few men who can " mix " and still maintain their dignity. To win the confidence of the men in the ranks, to disregard military conventionalities, requires a peculiarly endowed character. Such men would be specially adapted for duty as morale officers.

Heretofore it has not been considered wise by military authorities to let the men know that special effort was being made to improve the morale. Such attempts have been carried out without the cognizance of the men concerned. They have been brought about by a genuine interest in the welfare of the men, or, at least, a carefully camouflaged semblance of such interest.

If an officer has interest in this work, and carries it out with enthusiasm, some of the men, and it may be the majority, will catch the spirit of the officer. If the men learn that a certain officer has been detailed to keep them contented they may expect too much; they become suspicious, and the specializing of the work may destroy the real interest that would otherwise be attached to it. If the morale officer does not accomplish definite results, or betrays the confidence of the men, the result is more detrimental to the service than had no morale officer been de-

tailed. Morale is an important factor in discipline, but discipline cannot be divided into departments, there cannot be "too many cooks in the broth," or the plan is doomed to failure. The morale officer will only be successful in full coöperation with, and in subordination to, the company commander.

Among every body of men will be found the appreciative type, who respond to any individual efforts in their behalf. To many soldiers "Duty is the sublimest word in the English language," as Robert E. Lee has said. Until now, duty has been the leaven that leavened the whole company, and to it may be traced the morale of American troops in every branch of the service. There is also a small discontented contingent who fail to properly appreciate any endeavor made for them. Between these two extremes lies that body of men with whom we must deal. Some special influence must be set to work to keep these men coöperating with the highest type of men found in the company, and to prevent them from being corrupted by the radicals and reactionaries. In effecting this we must recognize the principle that only one thought can occupy the mind at one time. It was by the recognition of this principle that the welfare societies were so successful during the war. These diversions so filled the minds of the men with happy thoughts that there was no ground for the unhappy thoughts to gain a foothold.

At present the officers more especially concerned with the morale of our troops are: the Commanding Officer and the Chaplain. The Commanding Officer is the Chief Morale Officer. In supervising and directing the whole body he is, in the last analysis, responsible for the morale of the entire organization. The Company Commander seeks to promote the morale of his own organization, while the Chaplain arranges all Post competitions, attends to camp amusements, and makes suggestions to the Commanding Officer and Company Commanders.

The special service of the Chaplain is a personal service to each man, while the regular line officers have, in the times past, dealt only with the man as a soldier—as a part of the organization. The Chaplain thus becomes a special morale officer, and is an important factor in the morale of the post. He is in an excellent position to detect the "discontents," to learn the existence of "service kicks," and to discover any tendency toward the lowering of the morale.

The chief disadvantage of the old system is brought about by the increased importance of morale. Until the World War little had been seen of propaganda work for the destruction of morale, hence these officers did not attach the importance to it that the subject demands at the present time. It was seen what importance Germany attached to morale when we opened our eyes and found our own cities flooded with her anti-morale propaganda experts. Under the new order of things, morale becomes a work so important that officers must give to it more and more attention.

Whether greater efficiency can be secured by emphasizing morale in the duties of the Commanding Officer, the Company Commander and the Chaplain, or whether a special morale officer is necessary can only be determined after trial.[1]

Whether sufficient officers can be found to discharge such a delicate duty as that of "Morale Officer" is problematical. The men will know who the morale officer is, and they will know that he has been delegated for the sole purpose of making them contented. The men will expect much and a great responsibility will rest upon such an officer. If he should betray the confidence of the men he will lose their respect; if he should engage in political, religious, or other discussions, which his relations with the men are, more or less, apt to provoke, the plan of the Sixth Division will not be a great success.

The Navy and Marine Corps would, of course, each have their own morale organization. The methods used and the results obtained would be compared and should prove mutually beneficial.

If these special morale officers are to be tried out in the Marine Corps, and there are many good reasons why such an experiment should be made, it would seem wise to begin at the top by appointing a "Chief of Morale," with an office at Marine Corps Headquarters.

With the signing of peace there will be a great diminution in welfare societies. The ardor and spirit of these societies have done much for the morale of the service, and unless some special work is devised to replace these institutions, to keep up their good work, much will be lost. The "Chief of Morale" would be charged with this duty. Upon him would fall the duty of working up reports on morale, and of all special work to be done in improving the moral conditions and promoting the welfare of

[1] See Major Coyle's article for morale organization at present established. —[EDITOR.]

the service. It is possible to effect such a morale as to make Bolshevik and other propaganda harmless. "An ounce of prevention is worth a pound of cure."

The attitude of the military officer toward his men will, very probably, undergo a change. This prospective change is evidenced by the growing individualistic character of our people. A democratic government has been interpreted by some to mean a pure democracy instead of a Democratic-Republican form of government as provided for in our Constitution. Instead of each man voting, and then loyally supporting the outcome, whatever it may be, by a majority vote, we find men condemning every action taken by the government unless it is in accord with their own ideas. Laborers desire to become masters, and throughout the entire nation a strong feeling of absolute equality is present. This same feeling permeates many military organizations and gives rise to an element which is troublesome. It is this feeling that makes the position of the military officer quite difficult. We may, however, consider as a standard condition, the attitude of enlisted men on this subject, obtained by a system of questionnaires issued by the Twelfth Division upon demobilization. The *Infantry Journal* for April, 1919, states, as a result of these questionnaires, that "The increase in length of service showed a consistent belief that the present relations between officers and enlisted men are necessary."

In times past organization commanders did not realize morale as a potent factor in discipline. They did not think of morale as morale, but entertained a subconscious feeling, a sort of instinctive duty, to keep their men contented and to win their affection. This is not sufficient. Morale must be known as morale. It is a distinct duty. Its real importance is as yet unfathomed. The men have heretofore viewed an officer as one in whom has been reposed the responsibility for preserving discipline and for seeing that regulations are enforced. This attitude will be somewhat modified.

To effect this change will test the merit of officers more than they have ever been tested before. An interest in the personal life of the enlisted man is now demanded. We have a difficult duty to perform, yet the times require it, and the problem must be solved.

No special morale officer can, alone, clarify the atmosphere; he can only assist in the solution of a problem which is the plain

duty of the Company Commander. A " Chief of Morale " would, or should, do much to bring about a changed condition. He could, at least, create a more intense feeling toward this new duty, and spur the Company Commanders to special efforts.

How many Company Commanders realize that " The greatest regulator of conduct is the spirit of the organization "? How many realize that when a man is confined to the brig it is a reflection on the Company Commander? How many Company Commanders sincerely believe that their company is the best one in the Marine Corps? How many realize who is to blame if it is not the best? It is the fault of the Company Commander if his company is not all that he is required to make it. No special morale officer will relieve the Company Commander of this duty.

The " Morale Call " must be sounded throughout the Corps. The morale of our troops must make it impossible for any propaganda to lead them to mutiny. They must be satisfied, content, and feel a supreme confidence in their officers. The important duty of safe-guarding the interests of the government under which they live must be brought home to each man as never before. Napoleon's maxim that " In war the morale is to the physical as three is to one " must be recognized as a fundamental truth.

Napoleon, however, inspired his men by his own ambition for conquest and power, as well as by his personal magnetism. Under the great Julius Caesar soldiers were made to abandon all their property, to take their families with them to war, and to take what they wanted from the enemy or starve. This sounds somewhat German. We must set up nobler principles. We fight for the liberty of the world, for better conditions of life. We must hitch our wagon of progress to the star of civilization.

Napoleon infused such a morale into his troops that he made them " Rush into sure death as if going to a banquet." We must emulate his example. Our commanders must inspire their troops by this same personal magnetism, but the spirit that underlies our morale must be the right and justice of mankind, not selfish conquest; not might but right. Donald Hankey in " A Student in Arms " says of his captain, " We were his men and he was our leader. We felt that he was a credit to us and we resolved to be a credit to him. There was a bond of mutual confidence between us, which grew stronger and stronger as the months passed. . . . The fact was, he won his way into our affections. We loved him, and there isn't anything stronger than love when all's

said and done. . . . Somehow, gentle though he was, he was never familiar. He had a kind of innate nobility which marked him out as above us. . . . We all knew instinctively that he was our superior. . . . There was not one of us that would not gladly have died for him. We longed for the chance to show that. We weren't heroes. We never dreamed about the V. C. But to serve our Captain we would have earned it ten times over, and never have cared a button whether we got it or not. We never got the chance, worse luck, it was always the other way." That is the kind of morale that is our ideal—towards which we must strive, and with which we shall never recognize defeat.

In the old armies there were many more opportunities for inspiring the men than are found in the complex condition of a great modern army. Formerly the proximity of armies, the open warfare, the short-range guns, the lack of present-day methods of reconnaissance, gave to the leader wonderful opportunities for the display of his knowledge of strategy, tactics and personality. But there will ever be much opportunity for the display of leadership. Every war will produce its Sergeant Yorks. It is the irresistible force of leadership that counts.

Napoleon appealed to his men by stirring talks. Jackson stood like a stone wall at the second battle of Manassas; Jackson stood before his troops, his head bowed in prayer; Grant said in the peninsular campaign, "I will accomplish this though it take me all summer to do it." These personal words and acts have inspired men in the past. They expressed the spirit of the commander. They communicated to the troops the character and consecration of a leader of men. Such a leader will have the confidence of the men and his words and acts will be reflected in the rank and file.

This morale is different in its attainment from the morale of troops while inactive during peace time, and we are concerned in this paper more especially with the morale which grows out of welfare work. We must, by special effort, keep the morale of our troops from rusting, so that, should war come, our soldiers will respond to the proper stimuli.

It is not so much specific regulations and instructions that lift high the morale of a body of men, as it is the personal consciousness of the great principles involved, and a spirit for noble endeavor that is kindled in the breasts of men by an inspired and consecrated leader.

RELIEF MAPS

By Major Fred D. Kilgore, U.S.M.C.

THE relief maps are made about 30 inches square, on specially constructed tables. The modeling clay is first spread out over the table to a depth of about one inch.

The paper map that is to be reproduced is then placed on the clay and held securely in position by a rack that extends all around the table and may be raised or lowered by means of four threaded uprights, one at each corner of the table. These uprights are graduated so that the rack holding the paper map may be raised to any desired height and there secured by means of a butterfly nut passing through the rack and taking up against a vertical groove, one in each threaded metal upright.

After the paper map has been placed on the clay, the lowest contour is traced on the paper map (the impression being thereby made on the clay).

The paper map, and top of the rack which held it secured to the lower part of the rack, is then removed. Then, using the traced lowest contour as a boundary, another layer of clay is added to a height a little in excess of the vertical contour interval desired. The lower part of the rack is then raised until the top of it is at the desired height of the second contour, and by using the rack as a guide, a large knife is passed over the surface of the clay, cutting off all parts higher than the desired height of the second contour. The second contour is then traced on the clay as described for the first.

This method is continued until all contours have been laid. A series of steps are thus formed by the different layers of clay. Roads, canals, built-up villages, etc., are then moulded on the relief map. (Special tools are employed for making roads, railroads, canals, etc.)

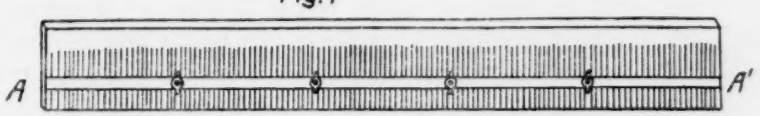
A reverse cast of the finished model is then made in plaster paris, the steps formed by the contours on the plaster paris reverse cast being filled in with clay so as to make the surface sloped instead of stepped, after which the reverse cast is used as a mould for making as many maps as desired. The cast having been finished, the features may be painted on it, or a paper map may

be pasted on it. (French military maps intended for the purpose of pasting on relief maps are made of Japanese rice paper, which stretches easily.)

If a large area of the country is desired, any number of approximately 30 inches square relief maps of adjacent parts of the territory may be made and placed together. By this means the General commanding a French Army had all the territory under his command represented by these sections of relief maps, all placed together, forming one large map (the whole area in which his army was operating) in a building adjoining his office.

The relief maps having been finished, and in order to determine the best points for observation posts the room is darkened and a small electric bulb (same as used in a pocket flashlight) is held vertically on any point desired. Wherever the light shines there is visibility, and those visible areas are painted a certain color. The electric lamp may then be moved to other points, both in our own territory and

Fig. 1



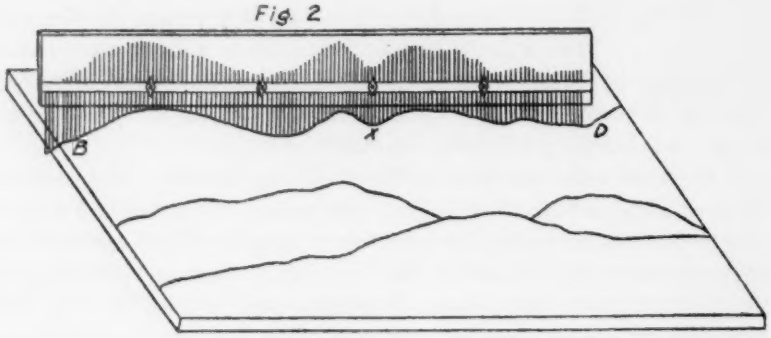
the enemy's territory and the lighted areas painted accordingly (a different color or shade of the territory seen from each observation point). In the event that all desired territory is not visible from any point on the map, the electric lamp may be suspended above the map (elevation in proper scale), thereby simulating an observation balloon, area lighted by simulated balloon also to be painted. In the same manner, artillery and machine-gun battery positions may be prescribed and their sectors of fire painted on the map.

By this means certain roads which are invisible to the enemy, or which are masked from his fire, may be selected as the proper ones on which a detachment may be ordered to advance when taking up a position.

In order to determine the proper trajectory required to cover the reverse side of a slope, there is a device about half an inch wide, ten inches high, and the length of the relief map (Fig. 1). This device I will call a "comb" for want of an English name. In the comb there is a set of steel teeth about eight inches long and one-tenth of an inch in diameter, pointed at the bottom end, and slightly ball-shaped

at the top end to prevent their falling completely out of the comb when teeth are released from their normal position. They are held in their normal position by four butterfly nuts which clamp the rod AA′ (Fig. 1) against a similar rod (this second rod being rigid) on

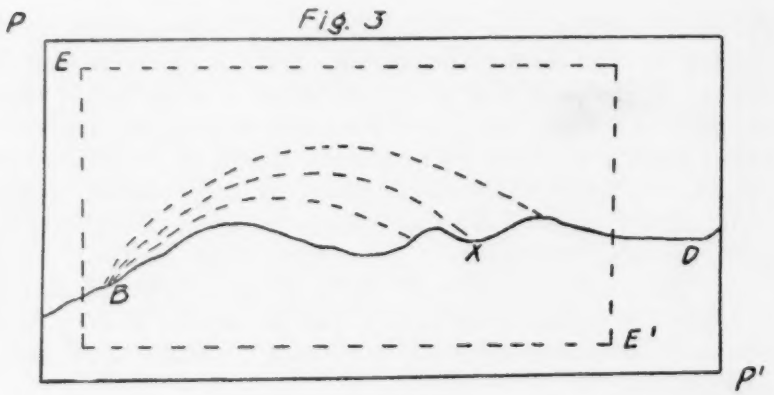
Fig. 2



the opposite side of the comb, the teeth being between the two rods.

If the profile between the points B and D (Fig. 2) is desired, the comb is placed vertically over these two points and the teeth released by slacking up the butterfly nuts. The teeth will then rest

Fig. 3



in a line on the map between the points B and D. The teeth are then clamped in that new position. The comb is then lifted clear of the map, laid on a piece of paper, and using the top of the teeth as a guide, the profile of the relief map between B and D is obtained.

Having obtained the profile, and in order to determine the proper

trajectory necessary to reach a desired reverse slope, a chart drawn on transparent paper showing the family of trajectories (group of trajectories) is laid over the paper on which the profile has been drawn. The desired trajectory can then be instantly determined as follows (see Fig. 3):

PP′ represents paper on which profile from B to D has been drawn. EE′ represents transparent paper on which group of trajectories has been drawn. EE′ is placed on top of PP′. The battery is located at B. X is the point at which we want to fire. The required trajectory is at once determined.

A SCHEME OF PROMOTION FOR THE MARINE CORPS

By Major E. W. Sturdevant, U.S.M.C.

THERE are three systems of promotion which can be applied to any military body:

1. Seniority—where officers are promoted in accordance with their length of service.

2. Elimination with seniority—removal of undesirable officers and promotion of remainder of seniority.

3. Selection—promotion of those officers deemed most fit, irrespective of other considerations.

Of course any one of these methods can be used, or two, or all of them can be combined.

For years the first of these systems, seniority, was the method established by law for the Navy in all ranks and for the Army and Marine Corps in all ranks except those of general officers. The arguments for and against seniority have been rehearsed so often in recent years that it is useless to give them at length here. The arguments alleged against seniority may be summarized as: first, that the seniority system provides neither incentive nor reward for exceptionally good work, and, second, that mediocre or incapable officers are given duties that could be better performed by more efficient officers, who are prevented through the seniority system from acquiring the rank necessary for these duties.

Both these arguments are subject to question. Even under a seniority system the exceptionally good officer is rewarded by being given more important and more interesting duties than his less meritorious brother officers. As to the second objection, many important duties are assigned sometimes to officers of one grade, sometimes to those of the next above or next below.

It is probable that the great majority of officers, being conservative by nature, are in favor of promotion by seniority, though there is a natural reluctance to go on record to that effect, for it exposes them to the obvious argument *ad personam* that they are afraid they would not be promoted by any other system.

Promotion by elimination combined with seniority was tried in

the Navy for a number of years. It was unsatisfactory to all concerned: to officers, who lived in constant dread of closing long and honorable careers by the public humiliation of being plucked; to Congress, who saw each year officers in the prime of life and health become burdens to the Nation's revenues by going on the retired list. We may therefore eliminate "elimination" from this discussion.

The third method, promotion by selection, unquestionably has far more favor with departmental heads and Congress than it has with the body of officers whom it concerns most. But the days are past when a military organization can be run as a close corporation by its own members, like the guilds of the Middle Ages, and officers must realize that their plans and recommendations, especially as to personnel, will be subjected to rigid and searching scrutiny, not only by the civilian heads of the departments, but by the legislative branch of the Government as well. In fact, the pendulum has swung very far in the other direction and it is a matter of regret that the opinions of those most seriously affected by personnel legislation should not have more weight, but we are dealing with a condition, not a theory.

I believe many officers agree that promotion by selection is in theory the best method but consider it impossible in practice. Unfortunately, with every purely selective scheme of promotion, it is almost imperative to devise some scheme of getting rid of those officers who are passed over again and again, for it is certain that there will be such officers, if only a few. The usual way suggested is to retire them on a percentage of their pay according to their years of service, one proposal finding the percentage by using the proportion:

Percentage of retirement pay is to 75 as number of years' service is to 30.

This scheme has two drawbacks: one from the point of view of public economy and the other from the point of view of the officers, themselves, who object.

First, it will make pensioners of the government men who are in good health and only middle-aged.

Second, at least in the case of those officers who have served 15 or 20 years, they are turned out on the world too old to learn a new trade and with retirement pay ridiculously inadequate to support themselves and families.

In comparing the various schemes of promotion, let us consider the results which every scheme should theoretically bring about.

For each organization to render the best service to the nation, it is obvious that its most able men should hold the most important offices. If we had an infallible method of determining the most efficient second lieutenants, first lieutenants, captains, majors, etc., and the relative degree of efficiency of each, then undoubtedly pure selection would be the only method possible. But we have no such system. In the Marine Corps our only method of judging between officers is by comparing efficiency reports and the value of efficiency reports is lessened by the difference in standards of the reporting seniors, of whom some are perhaps unduly strict and others unduly lenient. Furthermore, many officers perform duties of which the reporting officer has but nominal supervision and superficial knowledge.

A purely selective scheme does not sufficiently safeguard the interests of the average good officer. It would be quite possible, for instance, that officers who have performed well the duties assigned them, but who have, through no fault of their own, had no opportunity particularly to distinguish themselves, should find themselves still in the grade of captain at the age of forty or so, with no prospect of promotion and a possibility of being thrown out of the service at a mere pittance of retired pay.

It is evident that in forming and maintaining an officers' corps, the government should keep two considerations in mind:

First, it must obtain the best possible material out of which to make officers.

Second, the officers so obtained must be inspired to give their utmost effort in furtherance of the interests of the nation.

With regard to the first consideration, we may regard the government as an employer who says to his prospective employes:

"I want a certain number of well-educated young men of excellent character, and sound physique, who will serve me for forty years, more or less. But a certain number, I cannot say exactly how many, I will discharge when they are middle-aged, on a pension which will not suffice properly to maintain themselves and their families, and they will find it difficult to get other work, since I am the only employer of the trade they will learn in my service."

This, if it were honest, is what the government would tell its candidates for commissions, if the selective method of promotion were established, with its necessary corollary of retiring on small pay officers passed over.

It is true that youth recks not of the morrow, and also true that

officers do not serve their country merely for the money that is in it or the assurance of an established future; but, nevertheless, I do not believe that under such conditions we could get as good a type of candidates for commissions as we have heretofore.

The second consideration, that of encouraging the officer personnel to give the best that is in them to the service, involves the question of morale. I know it is not customary to consider the question of morale as affecting officers, since their morale is assumed always to be of the best, but after all officers are human, and deserve some encouragement in the performance of their duties. It really works out to the old question whether the best results can be obtained by promises of rewards or threats of punishment. On its face promotion by selection follows the first of these methods; actually it follows the second, for over the great majority of officers will hang the dread of seeing themselves passed over for promotion and then thrown into the cold world on retirement pay impossibly small for these days of the high cost of living. It cannot be expected that officers will do their best work under conditions such as these.

The argument alleged against the seniority system, as has been noted above, is that it places a premium on mediocrity, offers no reward for exceptional ability and keeps officers out of positions to which their abilities entitle them.

The argument against selection is, as we have seen, that it would keep the best material out of the service and discourage the officers now in it, and also probably not in many cases promote the best men.

The true solution of the promotion question is, then, a method which would obviate, in whole or in part, the objections raised above.

A recent proposal with regard to the commissioned personnel of the Army assumes that officers consist of three classes:

1. Those who, through exceptional merit stand out above others, and deserve exceptional promotion.

2. Those who through good, faithful, but not especially distinguished service, deserve ordinary promotion, that is, by seniority.

3. Those incapable officers who do not deserve promotion at all.

I believe that with this classification in mind a satisfactory solution of the promotion question as it affects the Marine Corps would be the following plan:

A board of general officers meets once a year to recommend officers for promotion to fill vacancies that have arisen during the preceding year. The board will be authorized to fill by selection from

the next lower grade, not more than 15 per cent. of vacancies in the grade of captain, 20 per cent. in the grade of major, 30 per cent. in the grade of lieutenant colonel, 40 per cent. in the grade of colonel and all vacancies in the grade of general officer.

All remaining vacancies will be filled by seniority.

Promotions from second lieutenant to first are not here considered, since the present system of probation for all second lieutenants (except Naval Academy graduates) and their subsequent promotion and rearrangement in rank according to efficiency, really provides a selective system for that grade.

The reason for increasing the proportion of promotions by selection in the higher grades is that as an officer's length of service increases, he becomes better known, and it is easier accurately to determine his efficiency.

The third class of officers, those unfit for promotion is, I believe, very small; and the present system of professional examinations, with the penalty for failing twice, should take care of that class.

It will be noted that the selection board is authorized to fill not more than the given percentage of vacancies by selection. It is not required to use up its whole given percentage, but may do so if desired.

This scheme when carried into effect, would, of course, increase the length of time in each grade for those officers who are promoted by seniority. This is regrettable but unavoidable. Suggestions have been made that all officers promoted by selection, assuming that there will be only a few of them, be made extra numbers. This has already been done by special act of Congress, in the case of a few officers who have been advanced in numbers for conspicuous service. This system would automatically increase the military establishment each year both in numbers and expense and it is therefore certain that Congress would not agree to it.

The plan I have suggested above does unquestionably give opportunity for rapid and exceptional promotion for those officers deserving of it. I do not believe that more officers than the percentages given in the plan have so distinguished themselves that they deserve early promotion.

And the interests of the great mass of officers are reasonably well safeguarded.

This plan is in its general principles, an adaptation to the Marine Corps of the system used in several European armies. The details are of course not the same.

THE EARLY YEARS OF THE MARINE CORPS

AMERICANS served as marines under the British flag in colonial wars; they served as marines against the British during the Revolutionary War, and splendidly vindicated their usefulness on land and sea. But the Marine Corps as an organization dates from 1798, the year of the outbreak of our undeclared naval war with France.

It may be urged that this is not the moment to revive the memory of past differences with a present Ally, but since we are told by certain zealots that in 1776 we fought, not England, but a German King on an English throne, let us say that in 1798 we fought not France but the Bolshevik phase of the French Revolution, we shall be up to date if inaccurate, and the peace of the Allied family will not be threatened. And there is a genuine timeliness, in view of the discussion of our future naval program, in reviewing the genesis of the navy under the Constitution, and the early conceptions of the functions and value of a marine corps in the American Military system.

Two circumstances rendered the question of a navy a vital one in the last decade of the eighteenth century. In the Mediterranean, where our vessels were no longer protected by the prestige of the British flag, they were constantly being attacked by the Barbary corsairs. Two paths were open to us: we could adopt the policy of the European nations and buy exemption, or we could put the fear of the American flag in their hearts by flying it at the masthead of armed vessels off their coasts. We toyed with both methods for a space. Our other problem was the danger of losing the great and profitable West Indian trade, and the commerce which sought the protection of our neutral flag in the war between France, and the coalition of which Great Britain was the most important member. The wealth flowing from this trade was one of the chief assets of our new government, and the maritime policy of the two belligerents threatened it. As in a more recent struggle, the belligerents were inclined to strike at each other by the extension of belligerent right, to the detriment of neutrals. A settlement more or less satisfac-

tory, according to one's political affinities, was reached with Great Britain by the Jay treaty, but the question with regard to France remained an open one.

As is well known, the Federalists favored keeping on good terms with Great Britain, and the Democrats wished to retain the friendship of France. The Federalists favored an army and navy as means of strengthening the central government, and the Democrats opposed military establishments in their fear of a strong central government; employing also the popular plea of economy. Moreover, the Federalists, as the party of the merchants, were more interested in the protection of commerce, and the Democrats, largely representing agricultural interests, much less so.

The First Congress had put the navy under the direction of the Secretary of War, and in the fall of 1790 Secretary Knox was securing estimates for the building of frigates. The experience of the Revolution had proved the importance of marines, and the estimates which he submitted to a Senate committee in 1791 provided for a forty-gun frigate, twenty privates, a sergeant, corporal, drummer, and a fifer under a lieutenant, and for a fourteen-gun brigantine, eight privates, and a corporal under a sergeant. It was the behavior of the Algerians, who had declared war upon the United States in 1785, which brought the matter of a navy before Congress, but serious consideration of the matter postponed until the spring of 1794, when the relations with Morocco were also most unsatisfactory, and many Americans were languishing in slavery. All sides of the question were well aired in debate, and one member made the accurate prophecy that when once a fleet was begun " there would be no end of it. We must then have a Secretary of the Navy, and a swarm of other people in office, at monstrous expense."

However, the government was confronted by a condition not a theory, and the President was finally authorized to acquire and equip six vessels, four of them to carry forty-four guns, and the others thirty-six. The Democrats secured the insertion of a stipulation that in case peace should be made with Algiers, the act should not be put into execution. Apparently through an error, while the larger vessels were to have a sergeant, a corporal, a drum, a fife, and fifty marines, the smaller ones, with only forty

marines, were to have two corporals besides a sergeant. Both classes of ships were to have a lieutenant of marines.

Work on the frigates was undertaken promptly, and six experienced men were appointed captains in the navy, to supervise their construction. When peace was signed with Algiers, the President succeeded in securing authorization for the completion of three of the frigates; the *United States*—a forty-four—building at Philadelphia under the supervision of John Barry of Revolutionary fame; the *Constitution*—forty-four—whose construction Samuel Nicholson was watching in New York, and the *Constellation*, thirty-six, to which the determined and experienced Thomas Truxton was giving his attention in Baltimore. Besides carrying on extensive correspondence with these gentlemen and with the contractors, Secretary Pickering was considering the question of the government of the navy that was coming into being. It will be remembered that John Adams had drafted the regulations for the Navy of the Revolution, and that he later expressed his feeling that he had not acted unpatriotically in modelling them closely after those of the greatest of maritime powers, even though that power was at the time his country's enemy. It is interesting to note that Secretary Pickering in 1795 wrote to Captain Nicholson that when the time approached for manning the frigates he would like to have Nicholson's copy of the book of regulations for the British navy, as he did not have one at hand. But if it had been his intentions to follow in the footsteps of Adams, he abandoned the project for a simpler one, by inducing Adams himself to father a new set of regulations. These "Marine Rules and Regulations" of Adams' were published in 1798, and although not formally adopted by Congress, were adopted by the Secretary of the Navy, who repeatedly mentioned in letters to captains during the French war that he was sending copies to them.

These rules made definite arrangements for the marines. They provided that when men should be lacking at "any cannon," etc., they will be replaced from the marines, "Corps de Reserve, or otherwise." The officers of marines were to be divided among the posts assigned to the musketry, one of them being assigned to the command of the musketry on the quarter deck. If the commander thought proper to use some of the marines at the batteries he was to employ part of their officers with them, and

" attach them to the service of a certain number of cannon, under the order of the officers who command said batteries." Marines, like the men at the rigging, pumps, etc., could be stationed elsewhere according to circumstances, but the marines were always to parade on the quarter deck when the drum beat to quarters and every other man ran to his station.

In the absence of more specific information as to the marines, it may not be unprofitable to turn to the early British regulations. These regulations, as early as 1765, when Americans were serving as British marines in the French wars, provided for a 40-gun ship, a lieutenant, 2 sergeants, 2 corporals, and 50 marines. The American 44 was to have the same, except that it was assigned but one sergeant and one corporal. The marines were to be listed separately from the seamen, but to have the same provisions, the same treatment when sick, to be sold slops by the purser at seamen's rates, and not to be ill-treated by the ship's officers. Each feature of these usages was incorporated into the American system, as appears from officers' correspondence. They were to be exercised in the use of small arms, to be employed as sentinels, and to all other duties of which they are capable, under the orders of the ship's officer, but were not to be allowed to go aloft. A sergeant was not to be struck. If marines wished to learn to be seamen, they could, by proving themselves qualified, be discharged as marines and entered as seamen. These regulations were followed on American ships also, with the exception that there was a tendency to limit the work that a marine could be called upon to do. The British marine officers were to have separate quarters built for them, an arrangement, which would have saved much difficulty if our authorities had found it practicable. The British usage placed them under the orders of the captain and the officers of the watch. These principles also were followed on American ships. The British regulations provided for a separate room for the marines' supplies, an arrangement which, at the suggestion of the Secretary of the Navy in 1800, most American captains voluntarily made; the British plan for two chests on deck to hold the arms and ammunition of the marines, he also urged, but apparently without success.

In the absence of specific information about the marines on ship board we must compare customs before and after this period. A British treatise by a lieutenant of marines, published in 1765,

gave as duties of marines on ship board: guards for receiving generals and admirals; escorting of prisoners and impressed men; at officers' funerals; for execution parties; to guard prisoners; and with their hair well powdered in good weather, to do sentry duty about the ship. There is evidence that between 1798 and 1800 American marines were drawn up on the quarter deck to receive distinguished officials; were depended upon as escorts and guards for prisoners; and that they acted as the sentries on board ship. One of the few points upon which the commandant was insistent at that time, was that whenever possible the sentries, or at any rate, the sentries in prominent stations, should have their hair powdered. As he said, "it instills pride into them and gives them a habit of cleanliness." British naval regulations of 1772 provided for the exercise of part of the crew, as well as the marines, at small arms. The minimum number to be thus trained was, for a forty-gun ship, fifty. This was also the number of marines on a ship of that class. That Secretary McHenry planned a similar usage is indicated by the supplies ordered for the three frigates, which included 400 muskets, 250 pairs of pistols, 300 boarding axes, 550 cutlasses, 300 boarding pikes.

While the small naval force was being built, the depredations of the French upon American commerce had been increasing, and President Adams kept before the eyes of Congress the possibilities of a rupture. In May, 1797, he described the French attitude in a way that lost nothing in the telling, and advised an immediate increase in the navy as a necessary measure of defense. Congress acted upon his advice to the extent of empowering the President to arm and employ the three frigates. The arrangements for the marines were altered somewhat, two lieutenants being authorized for each ship, and their pay made thirty dollars a month instead of twenty-six.

The number of non-commissioned officers was increased to three sergeants and corporals on the larger frigates, and two on the smaller. The seamen and marines were to be engaged for a

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NOTE.—On board the *Constellation*, in 1829, the marines did sentry duty in the following places: one at the cabin door, one at the scuttle butt, one at the brig, and one at the fore passage on the berth deck. In part there was one at each of the gangways and one at the bowsprit. A sergeant's guard in uniform was kept on the quarter deck in the daytime.

period not longer than one year, and the navy was to be governed by the regulations of 1775.

The depredations of the French continued; they had the audacity to seize a British ship in Charleston Harbor, and Congress made one halting concession after another. In a strong recommendation for an increase in both army and navy Secretary McHenry suggested that a regiment of infantry be enlisted to serve in the double capacity of marines and infantry; the men could be stationed at the principal ports, and be ready to embark at any time, and while on shore could act as coast defense and guards of public property. While this suggestion was not adopted, the substantial increase in the army was authorized, and in the course of time, by one enactment after another, provision was made for the completion of the three unfinished frigates, the acquisition of additional vessels, the employment of revenue cutters with an increased crew and a detachment of marines, and the equipping of galleys for harbor defense. There was a sharp disagreement about the establishment of a separate Navy Department, but this, too, was carried with the aid of the argument that a man acquainted with naval affairs could save money in acquiring and maintaining these substantial additions to the fleet. Benjamin Stoddert of Maryland was not a man acquainted with naval affairs, but he set out to acquire the information, and he had good advisers upon whom he placed great confidence, one of the chief among them being Stephen Higginson of Boston.

The popular feeling in the United States in the spring of 1798 was much like that in the first months of the Great War: indignation at attacks upon our commerce and a willingness on all sides to defend our rights as a neutral nation were blended with a strong desire to avoid being forced to take a part in the hostilities. But the great lengths to which the French went in their decrees respecting neutral commerce, and the treatment of our envoys in the X-Y-Z affair went far to silence even Democratic opposition, and on May 28 Congress passed an act authorizing the seizure of French armed vessels that had committed hostile acts upon our coasts or should be hovering in the neighborhood with hostile intentions, and authorized also the recapture of American vessels that had been captured by the French. The administration lost no time in acting upon this authorization, but passed on instructions to this effect to commanders of ships of

war the same day. However, only one vessel was afloat, the *Ganges,* Captain Dale. The glory of being the first to get to sea under the Constitution is the only glory the *Ganges* won under Dale.

Stoddert worked feverishly to get other vessels equipped and out, and one of the important tasks was equipping them with marines. The complement for each ship was recruited by an officer appointed to command them, or in some cases by a ship's officer. The recruiting rules drawn up by Stoddert were quite elaborate. No indirect methods were to be used; no men were to be enlisted while they were intoxicated; no negroes, mulattoes or Indians were to be taken, and no foreigners unless they had a well-established reputation for "Sobriety and Fidelity." They were to be enlisted for one year, and to receive, if sergeants, $9 a month; if corporals, $8; if musicians, $7. Privates received $6. No man was to be enlisted who was under five feet four without his shoes, and none younger than eighteen years or older than forty. The English regulations barred men under five feet or over six feet eight, and took no men over thirty-five (35), unless they had been formerly in the service. Recruits were to have the rules and acts of Congress governing the navy read to them before they were enrolled, and immediately after enrollment were obliged to give up their own clothing. This precaution against a recruit's changing his mind was reinforced by the warning that he was not to be allowed away from his quarters, until he had proved himself reliable, unless accompanied by a corporal or a trusty private. In the uniform for which the recruits exchanged their own clothes Stoddert struck the note which held until the blue and red was vanquished by forest green. It consisted of a plain short blue coat, edged with red, and with red collar facings, lapels, and belt; blue trousers edged with red, and red waistcoat. The buttons were the naval ones, bearing an eagle with a shield on the left wing enclosing a foul anchor. The sergeants were distinguished from the privates by having their uniforms made of finer material and by yellow epaulets. The fame of the black leather stocks lives to-day in the epithet "leatherneck." Non-commissioned officers carried hangers. The hat was round, bound with yellow, turned up on the side with a cockade. The men were provided with an extra pair of trousers, a second pair of shoes, and a blanket; the whole to cost, according to Congressional estimates, about twenty dollars. Later additions to the

outfit were made in the shape of a woolen hat, two pairs of linen overalls, and two more pairs of shoes. Watch coats were also provided on shipboard, in the proportion of one for every two men on duty.

The officers were resplendent in the long blue coats with red lapels and facings, slash sleeves with red cuffs, red waistcoats and blue trousers. The coats were lavishly trimmed with buttons like those worn by naval officers at the time; of yellow metal with foul anchor and eagle. Lieutenants in command wore a gold epaulet on the right shoulder; when there were two lieutenants on the same ship the junior wore his epaulet on the left shoulder. In full dress they, like the naval officers, wore cocked hats with black cockades and small yellow mounted swords. In spite of the temptation of a blue and red uniform there was great difficulty in securing the proper number of marines; the wages of seamen being much higher, that service was distinctly more popular in the seaport towns, as the prospects of prize money were equal. In the case of at least one vessel the methods of the Revolution were resorted to, a quota of men from the infantry being supplied to serve as marines on the *Delaware*. Infantrymen were also asked for to complete the *Constellation's* quota for her first cruise. To meet this difficulty, a bill was introduced by the Committee on the Protection of Commerce and Defense of the Country based on the belief that it would make for economy, discipline and convenience to organize into a single corps all the marines that were or should be in the service. The resolution proposed a battalion consisting of 500 privates and approximate officers and music under a major.

On the request of Gallatin, the leading opponent of the naval plans, for information as to the number of marines that would be needed, it was stated that the 44-gun frigates would need fifty each, and the 36-gun frigates forty-eight, the vessels of 20 and 22 guns twenty-five, those of 16 guns twenty, and the galleys ten each, making for the 25 ships then authorized, a total of 518 marines. To the objection that being scattered among the ships the marines would never be together to be disciplined, the chairman replied that there were advantages in having an officer who would give general supervision, hear complaints, and give attention to the fortifications. He added that he "would have to take a good deal of trouble from the War Office." The report was adopted by

the usual party vote, Gallatin, after the ballot, indulging in the hope that the corps was only for the existing emergency, and would not become a permanent part of the military establishment. The Senate evidently thought that the estimate of numbers left an insufficient margin and made some amendments to the bill. It was finally approved on July 11, 1798, as "An act for the establishing and organizing a Marine Corps." It provided for a major, four captains, sixteen first lieutenants, twelve second lieutenants, forty-eight sergeants, forty-two corporals, thirty-two drums and fifes, and seven hundred and twenty privates. Detachments from this corps were to take the place of the quotas formerly allowed on the ships, and were to be assigned by the President, who was also authorized to assign marines to shore duty. In case of the latter, the major was authorized to appoint the requisite staff officers. The corps was to be governed by the navy regulations, and the pay of all but commissioned officers to be according to the act of July 1, 1797. The major received fifty dollars a month and four rations a day; captains, forty dollars a month and three rations a day; first lieutenants, thirty dollars and three rations; second lieutenants, twenty-five dollars and two rations.

PROFESSIONAL NOTES

THE CAMPAIGN IN EAST AFRICA

IN a recent number of *The Journal of the United Service Institution of India* there are two articles dealing with the British Campaign in German East Africa. This campaign should be of great interest to the Marine Corps, since it was waged under conditions much similar to those carried on by the Marine Corps in its "Peacetime Wars," that is, jungle fighting under unhealthy tropical conditions.

The British forces were composed of extremely varied material: English, white Colonials, Native troops from India, and Native Africans. Of these the Native Africans were the only ones who did not suffer from the terrible climatic conditions, the other troops, even the Indians, showing a tremendous percentage of sickness.

Among the German forces likewise were many Europeans, but these were used almost entirely in furnishing officers and non-commissioned officers for the Native troops—an ideal arrangement, since it not only tremendously improved the military value of the Africans, but also made life easier for the Europeans, for they were spared the ordinary fatigue duty of military life and in addition had porters to carry their personal baggage. It is obvious that under such conditions the European German troops must have had less illness due to the climate than the white British troops.

An instance of the losses suffered by the European British is the campaign from Moshi to the Rufigi River, lasting about seven months, in which only 20 per cent. of those who left Moshi reached the Rufigi.

Tactics were of course tremendously influenced by the fact that the theater of operations was practically unknown, since the British apparently had no good maps of German East Africa, and the jungle was so thick that in part of the country two large forces could pass within a mile without their presence being known to each other. Moreover, there were frequently no roads, but only trails, in which single file was the only possible march formation. Although the country was quite varied, the writer uses the term "Average Bush" and goes on to say that by this he means fairly open forest, where

the limit of visibility is about one hundred yards, and the grass is about the height of ripe hay.

For this terrain an Advance Guard, composed of two companies, was arranged as follows:

First, a line of skirmishers at about ten paces interval, with a front of about one hundred yards, followed by the leading company in line of platoon columns, each platoon being in column of twos or files, the second company following in line of platoon columns. Flanking parties were provided on each flank and abreast of each element of the Advance Guard.

Distances depended entirely on the thickness of the bush.

This rather wide deployment of the Advance Guard seems to have been due to the fact that most of the fights were "encounter battles" or, as we should say, rencontre engagements. The Germans, furthermore, knew the ground, which the British did not.

The nature of the country encouraged flank attacks, since bodies of troops could get around to the flanks of the opposing forces without being seen. It was, therefore, always necessary to have not only a rear guard but a strong train or baggage guard.

Machine guns were found to be far the most effective weapon. Rifle fire was very ineffective, since the targets were elusive and the tendency in the bush was to shoot high.

Americans would probably question the truth of this, if a large percentage of the personnel concerned were qualified riflemen. From the standpoint of fire control, however, there is no doubt that the normal advantage of the machine gun is emphasized in this type of warfare, since the difficulty of controlling the fire of a line of skirmishers must be enormously increased in thick bush.

In pushing home an attack the bayonet was used almost entirely (apparently there were no grenades used in the East African campaign). In fact, it may be said that machine guns and the bayonet were relied on by both sides almost to the exclusion of the fire effect of the rifle.

Artillery used was of course limited in size, due to transportation difficulties. The 5-inch howitzer was the largest caliber used. It is noteworthy that "Accompanying guns" were sometimes used, frequently being brought right up to the firing line.

Camps were defended by outposts and patrols, but all detached posts were made very strong.

Ability to follow a compass course was absolutely essential, since most marches depended entirely on the compass for direction.

Protection of the lines of communications was often a difficult problem. In one case where the line ran parallel to the front it was solved by establishing near the line a series of fixed posts, rather heavily garrisoned.

In brief, we may say that the characteristic battle of the campaign was the rencontre engagement, where the advance guard held the enemy and the main body sought to attack his flank. Later on, when they were more used to jungle warfare, the British took advantage of the nature of the country by making wide turning movements which were almost always successful.

UNIVERSAL MILITARY TRAINING

Two bills have recently been introduced in the Senate dealing with Universal Training, one by Senator Chamberlain, the other by Senator Wadsworth, at the request of the Secretary of War.

The most important features of the Chamberlain Universal Training Bill are the following:

The Military and Naval training must include vocational training in appropriate trades, as far as practicable. All male citizens and those who have declared intention to become citizens are subject to Military or Naval Training for six months. They are allowed to choose whether service shall be Military or Naval and whether it shall begin at the age of eighteen or shall be deferred for not more than two years. Certain exceptions to liability for training are made, among them being persons having dependents and those already in the Military or Naval service.

Men who have completed their training service may, if trained in the Army, enlist in the Army or Marine Corps, or in the Navy if trained therein.

If voluntary enlistments are insufficient to maintain the regular services, a sufficient number of men may be selected from those completing their training to make up the shortage, these men being required to serve one year.

Cadets in the Military or Naval Academy and Regular and Reserve Officers in the Army, Navy and Marine Corps, perform Military or Naval service only in the grade held by them.

A Reserve of the Army and a Reserve of the Navy are established.

No Reserve of the Marine Corps is provided, though Reserve Officers and men of the Marine Corps are referred to in certain places in the Bill. Men who served in the Army and Marine Corps during the War may elect to become members of the Army Reserve, and those who served in the Navy the Navy Reserve.

All men who serve in the Army and Navy for the six months' training period, or any part of it, must perform service for ten years in the Army Reserve and the Navy Reserve respectively. Certain exceptions are made, among them of course being officers and men in the regular services.

All members of the Reserve must perform not more than nine weeks' active Military service for additional training during the first five years of their service in the Reserve.

When the President declares an emergency exists, all members of the Reserve may be called to active service.

The country is divided into not less than four army areas and not less than twelve corps areas, the Army Reserve being organized into a similar number of armies and corps. Each corps is to have at least one training division and one or more reserve divisions.

The National Guard is not to be required to serve outside the territorial limits of the United States.

Provision is also made for selective service in time of National emergency of all male citizens between eighteen and forty-five, with the usual exceptions.

The Wadsworth Bill deals principally with the organization of the Army, but also provides for universal training of three months for male citizens with certain classes excepted, during the calendar year in which they reach the age of nineteen. No provision is made for Naval Training. No Reserve is established, except an Officers' Reserve Corps, but all persons who complete the training are required to make such reports as the President may require for the next two years.

The Selective Service Act in force during the late War is to come into effect whenever Congress declares war.

THE M. P. PROBLEM *

Paris, July 25 (by mail).—Some day, possibly in the near future, Uncle Sam's army will again be called upon to do a little necessary work for humanity, this time nearer home. When this time comes—if it does—Uncle Sam's army will know the secret of military police control, one of the vital factors contributing toward law and order either in an army or in an occupied zone.

A military police lesson has come out of the war in Europe.

It is frankly stated in at least three-quarters of the army today that our military police experiment early in the war was a miserable failure. It is almost whole-heartedly stated on every hand now that the system is, and has been for some time, a howling success.

During the early stages of the American army abroad it was the opinion of many army men and some high up on the General Staff that a military policeman was a necessary evil and that most any one could fill the job. Consequently most anybody was selected to fill the position, just so he happened to be a man whose presence could be spared from the vital job of whipping the enemy. Possibly 50 per cent. of the men so chosen misinterpreted the power delegated to them and possibly half of this number shamefully abused that power. The military policeman carved a ridiculous niche for himself and became the butt of ridicule among fighting troops who were constantly asking whenever they saw him, "Who won the war?" or some other facetious interrogation. Often the M. P. resented the insult and demonstrated his power with equally insulting language, and even a club or a gun.

The M. P. problem began to get serious. The general officer, Brigadier General H. H. Bandholtz, veteran of the Philippine Constabulary, Mexican Border, and quite a portion of the European War, was told that henceforth he would be provost marshal general of the American Expeditionary Force and that his duty was to reorganize the military police.

The full story of the reorganization of the military police is too voluminous for any newspaper, but the fact remains to-day, at the twilight of the departure of General Bandholtz for America, that his work should be mentioned outside the mute records of

* Taken from the *New York Tribune*.

the American army. In brief, the American military policeman of yesterday in Europe is not the American military policeman of to-day.

The secret of reorganization was, in a sense, "horse sense."

The "most anybody" M. P. who wore a gun or carried a club, and, as many brands of American civil "cop," wanted every one to realize that fact, was quickly yanked from his pedestal. He was rapidly replaced by young men, preferably from combat units, who could prove claim to "horse sense," some amount of tact, level-headedness and perspective. Then the military police stock began to aviate. The slouching minion of military law who went out of his way to dodge saluting an officer, ached to use his club and authority on the first "fresh" doughboy, and exercised his own "freshness" on each and every occasion, began to disappear. His place was taken by the erect, intelligent, snappy young military policeman of to-day. It was Bandholtz's horse sense at work, and he has solved the military police system for the future of the American army.

How well he has solved it may be illustrated by testimonials from high ranking officers, many of whom have taken the unsolicited occasion to put their sentiments on paper. Following is an excerpt from a warm personal letter written by General Pershing to the provost marshal general:

"The duties of the department, especially of the Military Police Corps, consisting as they have of the enforcement of law and order, the control of traffic and circulation, the custody of prisoners of war, the apprehension of absentees, and the recovery of stolen property, have been of an especially trying and onerous nature. Working under difficult conditions, in a strange country whose laws and customs differed fundamentally from their own, they have succeeded in maintaining the best of relations with the civilian population and in all respects upholding the good name of their countrymen. From the base ports to the firing line they have represented the American government and its laws to the mutual benefit and well-being of all concerned. The uniformly efficient and successful manner in which their duties have been performed is to me a source of genuine satisfaction. I wish to extend my personal thanks and the thanks of their comrades of the American Expeditionary Force."

Major General J. G. Harbord, former commander-in-chief of

the service of supplies and at present chief of General Pershing's staff, has written General Bandholtz:

"I have just returned from a visit to Gièvres, Mehun, Verneuil, Bordeaux and St. Nazaire, conducting a party of French officers consisting of Marshal Pétain, Generals Castelnau, Maistre, Degouette, etc. In practically all places visited by this distinguished party the appearance, dress, conduct and general bearing, as indicating good discipline, of the military police were the subject of their favorable comment. I felt a great pride in the notice taken by these generals of the military police and share in their admiration and approval of this snappy, courteous, intelligent body of men. They are performing a real service through their efficiency and are a credit to the A. E. F."

Lieutenant General Hunter Liggett, commander of the First Army and later commander of the American Army of Occupation, gave this testimonial:

"The Military Police Corps met the situation with success, and by its energetic action insured the supply of the fighting troops north of No Man's Land. After the signing of the armistice their work in handling the situation in the various towns and cities has always been commented on most favorably."

And to all this Brigadier General Bandholtz answers "horse sense."

The maximum strength of Bandholtz's department reached a total of 1405 officers and 47,373 men before the disintegration of the A. E. F. began. During the heavy fighting period, in addition to other duties, they handled a number of German prisoners in excess of their own strength.

There is always a certain percentage of "duds" in any army. But in the future, I am convinced, the "duds" will have nothing to do with the military police. This war has taught a lesson.

WILBUR FORREST,
Special Correspondent of The Tribune.

INSIDE THE ARCTIC CIRCLE *

Huddled inside sleeping bags and covered with six or seven folds of blanket, we had lain shivering through a night that seemed to have made up its mind never to end. Our bedroom was a railway carriage. Outside a blizzard was blowing and a

* Taken from *The Globe and Laurel.*

goodly proportion of the said blizzard was finding its way into our shelter through innumerable cracks and loose joints. At long last came the time to get up, and, as we dressed in the darkness of an Arctic morning, our remarks at least were heated as we anathematized numb fingers that positively refused to insert buttons into button-holes and perform the other tasks for which they were intended. A glance at the thermometer which hung outside the door showed a temperature of 25° below zero—57 degrees of genuine best-quality frost. A few minutes out in the open, exposed to the force of the wind and blinded by the driving snow, sufficed to convince us that the thermometer erred on the side of moderation. Why doesn't some enterprising scientist invent a process whereby one can, when one so desires, remove one's nose and cheek-bones and leave them indoors on the mantelpiece? As it was, we had to keep careful watch on each other's faces to detect the first signs of frostbite.

We didn't stay any longer out of doors than we could help during that day. Not that it was really much of a day: just a couple of hours of dim light, from 11 till 1, and then darkness for 22 hours. What little we could see of the surrounding landscape revealed a waste of snow and ice—snow so dry that it was like fine white powder and ice that seemed to grow thicker as we watched it.

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Another sleepless night—a night passed in debating whether it were better to throw off the bedclothes and expose ourselves to the onslaughts of voracious mosquitoes, or to keep ourselves covered up and lie in a bath of perspiration. At midnight the temperature stood at 80° in the shade. I say "in the shade" advisedly, because the earth was then bathed in the rays of a sun which didn't have enough sense to retire at night. How we hated the Midnight Sun—a much over-rated natural phenomenon that foolish people used to spend much money for the pleasure of travelling to witness! When our watches decreed that another day's work was upon us, we arose. The exertion of dressing made us perspire freely: the energy expended in eating bully beef and biscuits caused more moisture to exude from our pores: futile attempts to circumvent the frightfulness of hordes of mosquitoes —evidently in league with the Hun—forced us to move in Turkish baths of our own creation. What would we not have given

for just one inch of the three-foot layer of ice so much in evidence during the winter months? How we would have welcomed the arrival of only a few stray flakes of the snow which, for six months in the year, would hide the earth under a mantle of white.

. . . . . .

The above are two of the memories which I have brought back with me from the Murman Coast. The contrasts are violent but the pictures are none the less accurate. The North Russian Expeditionary Force is campaigning inside the Arctic Circle, but it should not be presumed, on that account, that it is living in a land of perpetual ice and snow. From mid-June till the middle of September the weather is warm during the period in which the sun is shining for twenty-four hours daily (for about two months annually) the conditions are sometimes tropical. Potatoes that are planted half-way through June are eaten in the early days of August. Edible berries grow in luxuriant abundance: wild flowers carpet the woods: and mosquitoes, sand-flies and other pests are—but this a family paper, so I will not trouble you with our descriptions of them.

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There is not such a heavy snowfall as one might perhaps expect: a depth of about three feet is the result of the Clerk of the Weather's efforts in this direction. The cold, as a rule, is not so very severe. Of course, one must take into consideration the fact that our Force in the Far North is specially equipped for service under Arctic climatic conditions. The average temperature at Murmansk during the past winter was somewhere about zero. And that, when the air is calm, is quite endurable and even invigorating. When there are only from 10 to 15 degrees of frost, one may safely move about in ordinary winter clothing (even a heavy coat is unnecessary), provided one keeps hands well gloved and feet warmly shod, and wears a fur cap to protect the head and ears. Looseness is as important a desideratum as warmth in Arctic clothing: tight-fitting garments are the sworn allies of frost-bite.

When the wind begins to blow—well, then one sighs for the life of a coal-miner or tube employee, so that one might be able to burrow into the bowels of the earth. Not otherwise may one hope to escape from the piercing blasts of rude Boreas. Cross-

country travelling is immensely easier in the winter than during the summer. The lakes and marshes of July have become hard surfaces, strong enough to bear the heaviest traffic. For about six weeks the sun makes up for working overtime during the summer and withdraws altogether. The resultant gloom is rather depressing, but, probably owing to the presence of the snow, it is never dark during all the 24 hours of the day.

The atmosphere during the winter months is dry. Taken as a whole, the weather conditions are preferable to those which obtain during our so-called winter at home. From the 15th November, 1918, to the end of March this year, Murmansk did not experience a single damp day. Think of it, ye dwellers in Merrie England!

R. M. A.

SOME OF THE TROUBLES IN THE EARLY DAYS OF THE ROYAL NAVAL DIVISION *

An official communique, dated 5th September, 1914, and signed by Mr. W. S. Churchill, then First Lord of the Admiralty, inaugurated the Royal Naval Division. It was therein explained that the personnel were men belonging to the Royal Marines, Royal Naval Volunteer Reserve, Royal Fleet Reserve, and Royal Naval Reserve, who were surplus to Fleet requirements. All excellent material, though many ratings were of an advanced age.

Practically no Divisional Staff was appointed, but amongst a few army officers the Division was exceedingly fortunate in obtaining the services of Col. G. S. Richardson, C.B., C.M.G. (now Brigadier General) as A.A.G. The subsequent equipment and organization in the face of innumerable difficulties were mainly due to this officer's energy and ability, a fact which has scarcely been sufficiently appreciated.

The two Naval Brigades were until the Antwerp expedition quite independent, and were camped during formation at Walmer and Bettishanger, where training commenced with the assistance of a few army officers and some marine instructors.

The Marine Brigade at first consisted of one R.M.A. and three R.M.L.I. Battalions under the command of Brig. Gen. (Maj. Gen.) Sir G. G. Aston, K.C.B. They spent a short if perilous week-end at Ostend, after which the R.M.A. Battalion

* Taken from *The Globe and Laurel.*

was withdrawn, and a "Deal" R.M.L.I. Battalion formed to take its place. They were then moved to Dunkirk, where training continued, somewhat interrupted by calls from the French general for various reconnaissances and other work. Here (Dunkirk) the R.M. Brigade was joined by the Oxford Hussars and some Naval Air Service, including armored motors under Commander Samson.

Late in September, 1914, I took over command of the R.M. Brigade, soon afterwards Maj. Gen. Sir G. G. Aston returned to England sick.

The Brigade was never up to strength, and was deficient of transport and other equipment; in fact, was not a mobile unit, but whilst at Dunkirk, a considerable number—over 100—London motor omnibuses were sent out, and we commenced a novel form of training, for a unit of great mobility, when sudden orders were received to proceed to Antwerp.

The two Naval Brigades arrived in Antwerp, 5–6 October, and the Royal Naval Division was placed under my command.

It is a matter of common knowledge that the Division had many opponents in the Admiralty itself, and the losses incurred during the expedition could only strengthen this feeling. Even some who might have been in favor of its formation now regarded it with tolerant amusement. The War Office were naturally against the equipment and raising of troops not under their control, and it speaks volumes for Mr. Churchill's energy and determination that these preliminary obstacles were overcome.

Nearly everything which had been obtained with some difficulty, as well as a vast amount of private kit, had been lost in Antwerp, and the survivors of the expedition, in what they stood up in —say, some 6000—had to be re-formed and re-equipped *de novo*.

The two Naval Brigades were scattered about the country where accommodation was available, and the Royal Marine Battalions went to their various headquarters. Meanwhile, an engineer unit was being formed at Walmer, and a Naval Depot, which was also to act for the Division, was formed at the Crystal Palace under the command of Commodore Sir W. Bulkeley.

Even at this early stage, the Admiralty found that the requirements of the Fleet necessitated calling on the Division for the supply of certain ratings, who were naturally those which

could be least spared, and this process of combing out continued constantly, often sadly interfering with battalion organization; in one case a battalion had all its stokers in one company, and they were all recalled to naval service at the same time.

Eventually after the Dardanelles Campaign there were very few ratings with sea service experience left, other than Marines, and not too many of them.

It can be readily understood how this drain, peculiar to the Naval Division, added to the difficulties of organization and training.

Personnel (*Officers*).—Recruits were obtained mainly by direct temporary commissions, Royal Marines and Royal Naval Volunteer Reserve. Later, a good many were promoted from the ranks. Recruit training was carried out at Marine Headquarters and the Crystal Palace, of necessity all too short, still, most excellent material was forthcoming.

Men.—As regards the Royal Marines. The normal procedure partly at first satisfied requirements. Short service was introduced following the changes in the army, but when heavy casualties occurred it was found impossible to keep up the supply, and after the battles of 13th July, 1915, the Royal Marine Brigade was reduced to two battalions. Some of the material was good, but large drafts of recruits were under age, and lacked physique. This also applies to R.N.V.R. recruits.

As Regards R.N.V.R.—In the early days we were competing with army recruiting and insufficient numbers were forthcoming. To meet this deficiency, an arrangement was made with the War Office whereby some 4000 "Kitchener" recruits from the north were sent to the Naval Division, without any consent on the men's part. Few, if any, had ever heard of the Naval Division. This alone was sufficient to start a row, but when they found that the naval pay and allowances did not equal army rates, one must admit the justice of their complaints. The situation was peculiar. The Admiralty had recently introduced Separation Allowance. The War Office increased their existing rate; the result was a bachelor was better off under the Admiralty, a married man under the War Office, and in some extraordinary way most of these "Kitcheners" appeared to have enormous families. It can easily be imagined how this grievance affected both organization and training. As soon as I heard of it, I went myself to the centres of disaffection and promised these men they should

remain on army rates in accordance with the terms of their enlistment. But this only opened a fresh sore. R.N.V.R. with similar domestic difficulties then complained that they should receive equal treatment. However, this wasn't serious, though at the time it did not add to the popularity of the Naval Division.

In any case, the unexpected high rate of casualties made it impossible to maintain the eight naval battalions in the field, and after the 4th June, 1915, only six remained. Further reductions were threatened from time to time, but these six managed to remain in being until February, 1918, when only four naval battalions were left.

Engineers.—The Engineer Units were formed by Col. Carey, R.E., most ably assisted by Capt. Harrison (now Maj. Gen.), a temporary officer of great engineering ability. Excellent material was enlisted, and a remarkably useful unit was the result. They adapted themselves to the peculiar conditions of the Dardanelles campaign with surprising rapidity, and were second to no Regular Unit in efficiency.

Medical Unit.—The Medical Unit was a marvel of organization, thanks to Fleet Surgeon Gaskell and Capt. Casement, R.A.M.C. I do not think it was complete before leaving for the Dardanelles, but nearly so, and its subsequent excellent work was greatly due to careful preparation in its inception.

Clothing.—Considerable difficulty at first existed in common with the army as to the supply of khaki. For some time the R.N.V.R. were dressed as sailors.

A proposal to adopt the naval dress in khaki was killed by ridicule.

Everyone recognized the situation, and no serious trouble was met with as regards clothing. Of course, the shortage was at times most inconvenient, especially during the wet winter months of 1914–15.

Housing.—It was obviously important to concentrate the Division in some training area prior to again taking the field. An excellent site for three infantry brigades was selected at Blandford Race-course. The surrounding country was very suitable for training, and afforded facilities for rifle ranges, etc.

I cannot remember or trace dates. Hutments for three brigades were begun early, but, owing to labor and contractors' troubles, they were but slowly erected, and the 1st Brigade occu-

pied their huts before they were properly completed. The 2nd Brigade followed later, and the Marine Brigade was mainly billeted in the neighborhood. Unfortunately the weather was bad, and there were no roads to the camp. Most of the time that should have been spent in training was occupied with the uncongenial labor of road-making, and much grumbling resulted. The camp for weeks was in a parlous state, nearly knee-deep in mud. Human nature couldn't resist the tempting piles of contractors' timber which provided viaducts for intercommunication. The mud caused further delay in the erection of the remaining huts.

Equipment.—Here we were up against what appeared to be an insoluble problem. Naturally the War Office objected, though they consented to supply rifles.

We as naturally wished to be equipped as soon as possible, without waiting for our turn. We took as a basis the war establishment of an infantry division less cavalry and artillery, and with powerful Admiralty support set to work competing for supplies with the War Office. The results were indeed surprising; wagons, limbers, field-kitchens, water-carts, and stores of that nature were obtained, and though, perhaps, not all according to sealed pattern, proved serviceable enough, and the 1st Line Transport was available almost before the battalions were ready for its acceptance.

The supply of animals did not prove difficult, though the management left a good deal to be desired, and there were many ludicrous scenes in connection therewith.

One of the greatest difficulties was the formation of the Train. We had to enlist as R.M. our own A.S.C. Unit, and perhaps with the natural result that this was always the weakest part of the whole Division.

Promotions.—As regards R.M. These followed the ordinary procedure of the army.

As regards R.N.V.R. Extraordinary difficulties arose. In the case of officers, the principal was selection. As casualties occurred in the Dardanelles, I had to promote, subject to approval of A.G., R.M., who was administering the R.N.D. Meanwhile many promotions were made at home, and perhaps not always judicially selected, in any case, when some of these newly promoted officers arrived in the Dardanelles and took precedence over others who had borne the heat and burden of the day, and

who were preferred by their Commanding Officers, much trouble arose; in fact, so long as I remained in command, the question of promotion was always a thorny one.

Much the same happened with the "Petty Officers." It was not perhaps recognized that all promotions made or approved by me were acting or temporary to fill vacancies which could not wait for replacement from home. One consequence was that the Division plus its Reserves soon had an overwhelming superiority of Petty Officers.

Law.—Before I assumed command, the question had been raised of placing the Division under the Army Act when operating with army troops, and I urged this again and again, but for some reason the Admiralty refused, and up to the eve of the evacuation of the Dardanelles the Division was administered under the Naval Discipline Act.

For ordinary purposes this did well enough. Many minor punishments were inoperative, and others illegal, which were eventually quashed, but it was certain that if a serious offence occurred on service, the system would break down.

A Gilbertian if tragic situation occurred during the summer of 1915. An officer threatened with a loaded revolver to shoot his Commanding Officer. I applied for a court martial, and as we had no means on the Peninsular for keeping officer prisoners in custody, I obtained permission to embark the accused, and that was the last I ever saw or heard of him. It was obviously impossible to assemble a court. The presence of two ships of war was necessary. They would soon have been sunk. I think the idea was to hold the court in Lemnos Harbor, and after perhaps two or three weeks a Paymaster (Judge Advocate) came to my headquarters to collect evidence, etc. By this time all the principal witnesses had become casualties, and were not available.

In the early days up to the time of embarking for the Dardanelles, training can hardly be said to have been carried out seriously. There never was time. Every man had done some musketry, also a course of elementary drill, and I think we had one divisional exercise. The subsequent great work done by the Division is due to the magnificent keenness and spirit of all ranks.

A. PARIS,
(*Maj. Gen., R.*).

RELATIVE NAVAL STRENGTH *

With the question of economy very much to the forefront of our national politics people are naturally curious to know what the prospects are of immediate reductions in our naval and military expenditure. So far as that on the sea Services is concerned, the war has left legacies which it will take some months yet to discharge, and to judge by the daily press there is less impatience manifested with Admiralty administration in this connection, and rightly so, than with that of some other departments.

Looking to the future, however, much must depend upon the standard of strength to be adopted by the Government as that at which our naval forces must be maintained. For many years before 1909 our preparations were based upon a formula which had the great advantage of being simple and easily understood by the people. It was that the British Fleet should be equal to the fleets of the two next strongest naval powers. Only when Germany embarked on an extensive building program which was manifestly directed chiefly against this country did the two-power standard cease to be applicable, because it became inadequate. As Mr. Churchill admitted in the first speech he made on the Navy Estimates after his appointment to the Admiralty, "on the facts of to-day the Navy we should require to secure us against the most probable adverse combination would not be very much greater than the Navy we should require to secure us against the next strongest naval power," but he went on to explain why the time had come for us to readjust our standard in closer accord with actual facts and probable contingencies. "The actual standard of new construction," he said, "which the Admiralty has in fact followed during recent years has been to develop a 60 per cent. superiority in vessels of the 'dreadnought' type over the German Navy on the basis of the existing Fleet Law." When the war came, it was found that the Grand Fleet in the North Sea was, in the principal types, less than 60 per cent. superior to the High Sea Fleet. It had 20 dreadnoughts against 13, and four battle-cruisers against three, but from 1915 onwards, with the reduction of our oversea commitments in modern armored ships, the relative strength of the fleet at Scapa gradually improved. At Jutland, Jellicoe took into action 28 dreadnought battleships against the enemy's 16, and Beatty had 9 battle-cruisers against the German 5, but there were also 6 pre-dreadnought battleships in the enemy

* Taken from *The Army and Navy Gazette.*

fleet. In numbers, therefore, we were slightly over the 60 per cent. margin, but not up to the higher standard of "two keels to one" which had been urged on the Admiralty from several quarters.

What the future measure of our strength is to be remains, no doubt, undecided for the present. It may serve to throw light on the situation, however, if a comparison is drawn between the numbers of ships in the principal classes in the British Navy to-day and the numbers in similar classes in the fleets of the two next strongest powers. Such a comparison may be made in perfect good faith and in no invidious spirit, since it happens that at the moment the powers concerned are our friends, the United States and Japan. The following table is based largely on the information contained in the new edition of Lord Brassey's *Naval Annual:*

	Great Britain	United States	Japan	U. S. and Japan
Battleships (Dreadnoughts)	33	18	7	25
Battleships, building	..	6	2	8
Battle-Cruisers	9	..	4	4
Battle-Cruisers, building	1	6	..	6
Light Cruisers	60	3	8	11
Light Cruisers, building	12	10	..	10
Destroyers, built and building	390	326?	89?	415
Submarines, built and building	150?	122?	26?	148

From the above figures it will be seen that the British Navy's 33 dreadnought battleships exactly equal the total, built and building, of the two next strongest powers. The six building for the United States include the *Massachusetts,* of 43,200 tons, for which Mr. Daniels announced on August 1 that the contract had been placed with the Fore River Company. As regards battle-cruisers, Britain has nine, including two 15-in., three 13.5-in., and four 12-in. ships, as compared with the four "Kongos" in the Japanese fleet, which mount 14-in. guns. The six projected United States battle-cruisers were stopped in March last, until the results of Mr. Daniels's visit to Europe were known, so that if proceeded with they cannot be effective for some time yet. Meantime, the *Hood* will be completed for our Navy this year.

There is an overwhelming preponderance in British light cruisers. The 60 shown in the table excludes all launched before 1909—the "Scout" class, the "Gems," and the "Boadiceas," with earlier types—and the building total of 12 is made up of four of the "Elizabethan" class and eight "D" cruisers. On the other hand, the 11 vessels in the American and Japanese Navies are all

that they have in the way of light cruisers. It is true that, looking backward for a moment, these powers have each 12 armored cruisers, including three for Japan, which mount four 12-in. guns, whereas the full total of British armored cruisers is 19. The armored cruisers belong to an obsolete type, however, useful in many ways, but totally unsuited to be put into the line of battle not only by what happened to the squadrons of Cradock and Arbuthnot at Coronel and Jutland, but also, on the other hand, to that of von Spee at the Falklands. Destroyer totals are necessarily fluctuating at the present time, with several units of the war programs uncompleted, and a wholesale scrapping policy in progress. The British figures omit 97 vessels from class "A" to "F," but the maximum totals are given for the United States and Japan, although it is not known how many boats may be building for these powers, nor how many either is scrapping. It may safely be said, however, that the British destroyers certainly equal those of the other two nations in numbers, and are nowise inferior in power and battle-worthiness, having nearly all been built during the war. Roughly, too, it may be said that our submarines equal in number those of Japan and the United States combined. We began the war with 76 boats of all classes, and it is officially stated that our losses were 59. Those not lost, moreover, are scrapped by this time. During the war, however, Messrs. Vickers alone produced 54 British submarines, and it is known that at least two other firms, besides the public dockyards, were engaged in submarine construction. Even if the 148 boats of all classes in the United States and Japanese Navies, from those launched in 1901 onwards, are taken into consideration, we have probably as many vessels, which on an average should be, of course, of greater size and power.

From this summary examination of the relative strength of the three navies, the fact emerges that we have certainly a two-power standard at present, and no very heroic measures are necessary to maintain it. To repair semi-obsolete ships must be absolute waste. In fact, unless some of the other members of the League of Nations decide to launch out into warship building programs, we ought to be able to effect large economies in material strength with complete safety and security, and also without resorting to expedients which would bear hardly on the *personnel* which has done so much in the war.

A Sea Officer.

NOTES ON CONVERSION OF WAR RISK INSURANCE

THE Term (War) Insurance issued by the Government may be retained for five years after the termination of the war, as proclaimed by the President, provided the premiums are paid. At the expiration of this period, the insurance terminates unless the insured person converts it within the five years to a permanent form of Government insurance. The following forms of policies will be issued by the Bureau of War Risk Insurance to persons making the conversion:

(1) Ordinary life,
(2) Twenty-payment life.
(3) Thirty-payment life,
(4) Twenty-year endowment,
(5) Thirty-year endowment,
(6) Endowment maturing at age 62.

These policies will be issued in sums ranging from $1000 to $10,000, in multiples of $500. The insurance will be issued against death and total permanent disability. Should the policy become a claim by death, payment of $5.75 per month is guaranteed for 240 months, for each $1000 insurance, and should the insured become totally and permanently disabled payment of installments will continue during his life while so totally and permanently disabled.

The insurance payments will be paid in one sum in the following specific instances:

(1) When cash value is taken,
(2) When surrendered for paid-up insurance,
(3) When the policy matures as an endowment.

The insurance is unassignable, non-taxable and free from the claims of creditors.

Premiums are payable monthly, quarterly, semi-annually, or annually. If monthly, members of the service may pay through monthly allotments.

The policy will participate in gains and savings, and provision is made for the payment of dividends as earned.

TREASURY DEPARTMENT,
BUREAU OF WAR RISK INSURANCE.
Form 739.—Revised June, 1919.

APPLICATION FOR CONVERSION OF GOVERNMENT WAR RISK INSURANCE.

Issued on the Yearly Renewable Term Plan, in accordance with the provisions of the War Risk Insurance Act.

Use ink and make separate application for each kind of insurance applied for.

1. My full name is _____ (Please print or type.) (First.) (Middle.) (Last name.)
2. Home address _____ (Number and street, or rural route.) (City, town, or P. O.) (State.)
3. I was born on _____ (Day.) (Month.) (Year.)
4. Organization at time of applying for War Risk Term Insurance _____ (Rank, grade, or rating.) (Organization, regiment, station, ship, etc.)
5. Army serial number _____ (If such number has been assigned to you.)
6. Present organization, or organization at date of discharge:

_____ (Rank, grade, or rating.) (Organization, regiment, station, ship, etc.)

7. Amount of War Risk Term Insurance, $_____ 8. Certificate No. _____
9. Last month for which premium was paid _____ 10. Monthly premium paid, $_____
11. I apply for United States Government Life Insurance of $_____ on the following plan:

_____ Ordinary Life. _____ 20-Payment Life. _____ 30-Payment Life.

_____ 20-Year Endowment. _____ 30-Year Endowment. _____ Endowment Maturing at age 62.

12. I will pay premiums _____ Monthly; _____ Quarterly; _____ Semiannually; _____ Annually.
(Put cross mark [X] opposite plan and method selected.)

It is agreed that the insurance herein applied for shall not take effect until the application therefor has been approved by the Bureau of War Risk Insurance. It is further agreed that the insurance herein applied for shall take effect on the first of the month succeeding the date of this application provided the premium on an equal amount of Yearly Renewable Term Insurance, payable on the first of the current month, has been paid. If, however, the premium on an equal amount of Yearly Renewable Term Insurance, payable on the first of the current month, has not been paid, then the converted insurance shall take effect on the first of the current month; but in no event shall the converted insurance take effect until the first premium thereon has been paid.

13. **BENEFICIARY OR BENEFICIARIES OF INSURANCE HEREIN APPLIED FOR IN CASE OF MY DEATH.**

RELATIONSHIP TO ME.	NAME OF BENEFICIARY. (If married woman, her own Christian name must be stated.) (First.) (Middle.) (Last name.)	POST-OFFICE ADDRESS. (a) Number and street. (b) City, town, or P. O. and State.
		(a)
		(b)

14. **In addition to the converted insurance above applied for, I wish to continue $_____ of the insurance on the Yearly Renewable Term Plan,** heretofore granted to me, and in consideration of the granting of the United States Government Life Insurance herein applied for, I hereby agree that all my rights and interest in an equal amount of Yearly Renewable Term Insurance heretofore granted me under the War Risk Insurance Act shall cease and determine on the day the insurance herein applied for takes effect. The amount of Yearly Renewable Term Insurance which continues in force shall be payable to the following beneficiaries. Any previous designation of beneficiaries is hereby revoked.

15. **BENEFICIARY OR BENEFICIARIES OF YEARLY RENEWABLE TERM INSURANCE HEREIN RETAINED.**

RELATIONSHIP TO ME.	NAME OF BENEFICIARY. (If married woman, her own Christian name must be stated.) (First.) (Middle.) (Last name.)	POST-OFFICE ADDRESS. (a) Number and street. (b) City, town, or P. O. and State.
		(a)
		(b)

16. Signed at _____ on the _____ day of _____, 19____
17. Witnessed by _____ (Signature of witness.)
18. Address _____ _____ (APPLICANT SIGN HERE.)

19. The applicant must remit with this application a sum not less than the amount of the first premium on the converted insurance applied for.

I inclose herewith remittance payable to the TREASURER OF THE UNITED STATES by {Draft / Money Order / Check} in the amount of $_____ to cover the first _____ premium on the converted insurance.
(State whether monthly, quarterly, semiannual, or annual.)

_____ (APPLICANT SIGN HERE.)

The premiums are lower than those charged by any company for participating insurance with similar benefits.

The policies provide for loans at any time after the first year, equal to 94 per cent. of the cash surrender value.

By a recent decision of the Secretary of the Treasury, discharged soldiers, sailors, and marines who have dropped or cancelled their insurance may reinstate it within eighteen months after discharge without paying the back premiums. All they will be asked to pay will be the premium on the amount of insurance for the month of grace in which they were covered and for the current month. The man applying for reinstatement must, however, be in as good health as at date of discharge.

TO DISABLED MARINE CORPS OFFICERS AND ENLISTED MEN

YOUR government will pay the expenses of a professional or vocational education for any man who has been discharged from the service, and whom the Bureau of War Risk Insurance has declared to be a compensable case, provided re-training is feasible in the judgment of the Board.

In addition to paying the tuition expenses of the education, the man will be paid either a minimum of $65 a month or the base pay of his last month of active service, whichever is the greater, during the entire time that he is being re-educated.

You owe it to yourself and to your family to make a thorough investigation of this opportunity. Write or call immediately at the nearest district office of the Federal Board for Vocational Education whose Headquarters are in Washington, D. C. A list of the District Offices follows:

District No. 1: Maine, Vermont, New Hampshire, Massachusetts, and Rhode Island. Office: Room 433 Tremont Building, Boston, Mass.

District No. 2: Connecticut, New York, and New Jersey. Office: Room 711, 280 Broadway, New York.

District No. 3: Pennsylvania and Delaware. Office: 1000 Penn Square Building, Philadelphia, Pa.

District No. 4: District of Columbia, Maryland, Virginia, and West Virginia. Office: 606 F Street, N. W., Washington, D. C.

District No. 5: North Carolina, South Carolina, Georgia, Florida, and Tennessee. Office: 823 Forsyth Building, Atlanta, Ga.

District No. 6: Alabama, Mississippi, and Louisiana. Office: 822 Maison Blanche Annex, New Orleans, La.

District No. 7: Ohio, Indiana, and Kentucky. Office: 1212–14 Mercantile Library Building, Cincinnati, Ohio.

District No. 8: Michigan, Illinois, and Wisconsin. Office: 1600 The Westminster, 110 South Dearborn Street, Chicago, Ill.

District No. 9: Iowa, Nebraska, Kansas, and Missouri. Office: 517 Chemical Building, St. Louis, Mo.

District No. 10: Minnesota, North Dakota, and South Dakota. Office: Room 742 Metropolitan Bank Building, Minneapolis, Minn.

District No. 11: Wyoming, Colorado, New Mexico, and Utah. Office: 909 Seventeenth Street, Denver, Colo.

District No. 12: California, Nevada, and Arizona. Office: 997 Monadnock Building, San Francisco, Cal.

District No. 13: Montana, Idaho, Oregon, and Washington. Office: Room 539 Central Building, Seattle, Wash.

District No. 14: Arkansas, Oklahoma, and Texas. Office: 810 Western Indemnity Building, Dallas, Tex.

EDITORIAL NOTES

It is the intention of the GAZETTE to publish in each issue, beginning with the next number, an article covering some phase of the Marine campaigns in France. These articles will be prepared by the Historical Section of Headquarters of the Marine Corps, and will therefore be as accurate as it is humanly possible to make them.

Notwithstanding the urgent appeals for contributions made in previous editorials, there is still a regrettable lack of response on the part of members of the Association. And the most exasperating feature about the situation is that with the Marine Corps carrying out its present wide and highly diversified range of duties, there must be a tremendous amount of potential material of the most valuable kind stored away in the brains of officers of the Corps. Yet the proverbial difficulty of extracting blood from a turnip is a fair measure of the editor's task in obtaining articles.

The object of the Marine Corps Association, as stated in its constitution, is "to disseminate knowledge of the military art and science among its members; to provide for the improvement of their professional attainments; to foster the spirit and preserve the traditions of the United States Marine Corps; and to increase the efficiency of its members."

The principal organ to carry out this object is the MARINE CORPS GAZETTE. Its success in doing so depends on the willingness of members of the Association to share their professional knowledge and experiences with each other through the medium of the GAZETTE.

Every Marine Officer should be a member of the Association. That seems self-evident to the editor, but, as will be seen, many Marine Officers hold different views. Of the officers on the active list who were shown in the Navy Register, 1919, as holding permanent or temporary commissions in the upper grades, the following percentages belong to the Association:

General Officers	94
Colonels	86
Lt.-Colonels	75
Majors	75

It is reassuring to learn that as an officer gains higher rank (which means more years and greater experience) he is more apt to belong to the Association.

In the National Rifle Association and National Matches of 1919, held at Caldwell, N. J., during the month of August, the team representing the U. S. Marine Corps won twelve matches out of the sixteen held, thereby establishing a new record.

The following matches were won by the Marines at Caldwell:

Rapid-fire Match.	Enlisted Men's Team Match.
Marine Corps Cup Match.	Member's Team Match.
Two-Man Team Match.	President's Match.
Veteran Team Match.	Grand Aggregate Match.
United Service Match.	Regimental Team Match.
Company Team Match.	National Team Match.

The National Individual Match was also won by a Marine, Corporal Theodore B. Crawley, U. S. M. C., of the A. E. F. Team.

A FEW LIVE TOPICS ON WHICH ARTICLES ARE REQUESTED

Maintaining the morale at a high standard in time of peace.

The strategy of the Great War.

Tactical changes due to the introduction of new arms and the effect on the organization of the Marine Corps.

Where should Advanced Base organizations be permanently located or stationed?

What type of transport is best suited to Marine Corps needs?

Considering organization changes due to modern tactical development, what is the best organization for Marine serving afloat?

How should the higher ranking officers in the Constabulary Detachments of Haiti and the Dominican Republic be selected?

Technical Schools for the Marine Corps.

An Educational and Training System for Officers of the Marine Corps.

APPLICATION FORM

Place.....

Date.....1919.

THE SECRETARY-TREASURER,
MARINE CORPS ASSOCIATION,
Headquarters, Marine Corps,
Washington, D. C.

SIR:

I desire to be enrolled as a member of the Marine Corps Association. I enclose herewith a check (or money order) for $5 covering the first year's dues from July, 1919, to July, 1920.

Until further notice please forward the MARINE CORPS GAZETTE to me at the above address.

Name.....

Rank.....

(All checks or money orders to be made out to "Secretary-Treasurer, Marine Corps Association.")

OUTLOOKING THE RHINE AT HAMMERSTEIN